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This Magazine, being designed as a means for the interchange of Notes and Observations on Birds, appeals for its support to all who are interested in that department of Natural History.

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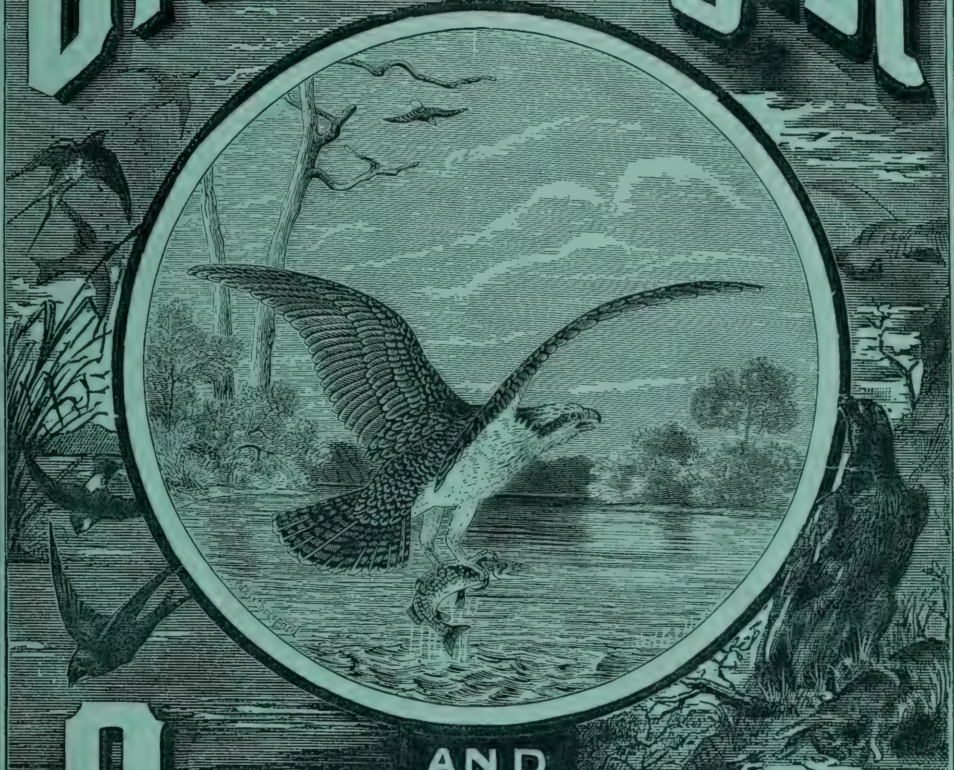

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An Ornithologist's Summer in Labrador.

BY M. ABBOTT FRAZAR.

The 15th day of May, 1884 found me at Esquimaux Point on the Labrador coast, and although I had been travelling for some five weeks endeavoring to reach the boon of my exertions where eggs could be "gathered" I still had the worst part of the journey before me before I could reach Cape Whittle, which from all accounts I could gather was the central breeding point for the thousands of sea birds which called Labrador their home. This part of my trip proved to be the most disagreeable of any. I now undertook a small, leaky, unseaworthy trading schooner; a rocky, barren coast; a gale of wind on an average of every third day; and things not conducive to very rapid travelling, so full four weeks more dragged wearily along before I was finally located on June 16th, at Wolf Bay, which is only a few miles to the westward of Cape Whittle. To explain the trip a little more fully, I will say that in the vicinity of Esquimaux Point the islands and main-land are well wooded with principally spruce trees which grow many of them to a height of sixty feet. About these sea birds are not abundant, a few Black backed and Herring Gulls and a scattering pair of Eiders being all that is left of the feathered hordes which have long since been driven away by repacious eggers. The Indians must certainly be spared any blame for the exceedingly rapid decrease which has taken place in the numbers of Gulls, Murres and Eiders which once inhabited the whole Labrador coast. Their wants are easily satisfied and I could not help giving them credit for showing a more discerning judgment than the white people, for, after "running" an island once or twice, and that not thoroughly, the birds were then left alone undisturbed. Neither can the white residents be held to account for but a very small share in the extermination, for although about every family preserves a few eggs for winter's use, still the numbers so held could not have been as one in ten thousand to what were laid there twenty-five years ago.

The Halifax "eggers" come in for a good share of the blame, and I can hardly feel but it is rightfully bestowed; however, they can be held responsible for the decrease of but one species, namely the Murre, for that was the only species they disturbed. Their method was this: a vessel of about forty tons would leave in the Spring with say a dozen men besides the regular crew, for the breeding grounds, and on reaching there these extra hands were stationed about in pairs on every island where Murres congregated in sufficient numbers. The first step was then to gather all the eggs that had already been laid and throw them into the sea, which was necessary so that all the eggs which were retained for shipment might be fresh, and after that the eggs would be gathered regularly every morning for a Murre never deserts its chosen home and although its clutch is but one egg, still if that is taken from them they will continue to lay with the religious regularity of a hen. In about ten days these men will have gathered a sufficient load and the vessel, which during this interval has been laying in some convenient bay, is now prepared for the return trip. The first thing to do is to remove the hatches and to throw over the ballast, then the hold is covered to the depth of about three feet with the long soft moss found growing on most of the neighboring islands. After this is done the eggs are piled loose upon the top of this bed to the depth of about two and one-half or three feet right over the whole hold, and the vessel starts for home leaving the eggers behind to gather another load which is sure to be ready before her return. The second is generally her last trip, but in successful seasons as many as

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three voyages have often been made, and when one considers that during the height of this egging business as many as four vessels were kept a-going, it is easy to see what a vast number of eggs were taken away. But to get a little nearer to the exact figures, I will say that a good voyage was expected to turn out about fifty puncheons of eggs, and as there are about two and a half barrels in a puncheon and as each barrel holds fifty dozen of eggs a little figuring will show, allowing nothing for the eggs thrown away and those broken in gathering, that each trip a vessel made meant the destruction of at least six thousand two hundred and fifty dozen Murre eggs. This class of men are always ready to say "well you cannot blame us for the lack of birds, we never shot or killed one in any way," but their ears are closed when one tells them that in sapping their prolific forces they have taken a still surer though more subtile means of extermination.

But the fishermen should be held responsible for the greatest general destruction. During the fishing season every bay and sheltered place will have its proportion of from one to twenty fishing schooners anchored there for protection. During the weeks the men are all busy out in their dories fishing, but their Sundays are their own and are generally spent on the islands gathing eggs and shooting birds, and they stop at nothing but shoot everything which flies whether eatable or not, and shoot just for the sport they find in destruction; and as they keep it up during the whole season the poor birds have but a slim show.

But to come back to our starting place again, Esquimaux Point; after leaving here we sail for about thirty miles by well wooded islands and a comparatively inviting coast, but then for a distance of about one hundred miles or as far as Hegashka river, but very few islands are passed. The coast is all the time assuming a more barren aspect until, when anchor is cast in Musquarro bay, about thirty miles beyond Hegashka we find we are again among an abundance of small islands, but this time devoid of all trees except a few stunted spruces; the coast rising back one hill above another in almost barren nakedness, clothed with nothing but white dry moss, upon which the caribou live in winter. From here to Cape Whittle the coast is abundantly studded with islands, varying in size from rocks just out of the water at high tide, up to others of a hundred or two acres in extent. Once at Wolf Bay and settled in the comfortable house of Gilbert Jones I felt at home and ready for work.

The following notes relate almost exclusively to the sea birds where the greater part of my time was spent. The land birds I know but little about.

Urinator imber, Loon. Rather rare. Said to breed exclusively on fresh water lakes on the mainland, but seen at intervals on salt water where they come to feed.

Urinator lunnue, Red-throated Loon. Rather common and generally distributed along the coast. Breeds on the edges of the smaller ponds (often near pools of surface water only a few rods square), on the larger islands they make no nest but simply lay their eggs in a slight hollow on the bare ground, usually on a slight rise not over one foot from the water's edge. The space about the egg is perfectly bare, the grass or other vegetation being trampled flat. Hence the spot is easily discovered, and the bird if sitting can be seen for a considerable distance. Seven sets of eggs taken, each contained two, which from all I heard or saw is the greatest number ever laid.

Fratercula arctica, Puffin. At the entrance of Wolf Bay is Wolf island, which accommodates the largest colony of Puffins I heard of on the whole coast. The island coveres an area of about two or three hundred acres and the whole surface is covered with Puffin burrows. In many places they are so thick that one cannot step without sinking the foot into one and as likely as not come down onto the back of the inmate, but it never seems to hurt them as they scramble out and away they go. These burrows look from the outside like a Woodchuck hole and are about the exact size, but they are seldom over four feet deep and generally take an abrupt curve near the opening and run along usually near the surface of the ground. Several that I opened curved in such a way that the nest, which is an enlarged cavity at the end of the burrow with a little straw laid on the bottom, was exactly under the entrance and only a thin crust of soil between the two. My method of opening them was to put in my arm above the elbow and throw up the soil, then advance it again and the second time generally made the nest accessible and almost invaribly the parent bird was found sitting. About a dozen nests I examined held two eggs and the balance of about a thousand, contained but one each; the greater part of the eggs were a plain, dull white, others were more or less thickly spotted with concealed chocolate markings deepening on some into reddish-brown, and about a dozen specimens were covered with deep and distinct brown spots and blotches, the spots varying on many to distinct tracings such as is seen on Murre eggs.

During my stay at Wolf Bay and while the Puffins were laying, we had a heavy three day's storm, the day after which I visited the island and every burrow was flooded and in many of them I could see the eggs floating around, showing they were somewhat incubated, and yet I think it made no difference in the hatching of the eggs, for afterwards there was hardly a burrow without its young bird. While the holes were drying out I noticed a great many birds plucked green grass and carried it in, presumedly, to raise the eggs out of the mire.

Cepphus grylle, Black Guillemot. Rather common but nowhere numerous. According to my experience this species is not at all gregarious except when drawn together by force of circumstances.

Chepphus mandtii, Mandt's Guillemot. This species recently added to our list, was unfortunately an unknown one to me before my visit to Labrador,and regarding the Black Guillemot too common to bother with, I made up but two skins, both of birds which I caught upon their nests, though I had several other specimens at various times which I threw away. On my return home I found I had a specimen of each species and fortunately I took but one set of eggs on the day I took this species so I could identify them without doubt. They do not vary from the eggs of the common Black Guillemot, and like them were found in a deep crevice between two boulders.

Uria troile, Murre. Very common but rapidly diminishing. This species generally breed on the islands furthest out to sea and seldom make any effort at concealment, laying their eggs generally upon flat surfaces; often so close together that they get confounded and try to steal each others eggs. But quite often I have found them away underneath the rocks on shelves where I have had to crawl on my stomach and then reach still further in with a forked stick to draw them out. I noticed quite a number of instances where eggs had been laid in little hollows among the rocks which had afterwards become full of water so as to nearly cover the eggs; however, I saw quite a number of birds sitting upon eggs which were in just such positions; whether they would hatch or not I cannot say, but I certainly never took an egg which was in the least bit addled. I saw no evidence of their ever laying over one egg at a time and the birds pick but one bare spot on their breasts.

Alca torda, Razor-billed Auk. Common everywhere, much more so than the preceding species, owing to its habit of breeding in less frequented places and concealing its eggs in cracks and crevices among the rocks where it is not so apt to be disturbed. Also very frequently lays its eggs in the mouths of inhabited Puffin's holes a few inches or a foot from the mouth. This species is exceedingly gregarious; lays generally one egg, though in about twenty instances I found two. The bird picks two bare spots on its breast.

To be continued.

A List of Birds of Buncombe Co., North Carolina.

BY JOHN S. CAIRNS, WEAVERSVILLE, N. C.

1. Wood Trush (*Hylocichla mustelina*). Summer visitor, common.

2. Wilson's Trush (*Hylocichla fuscescens*). Summer visitor, common on Craggy Mt.

3. Olive-backed Trush (*Hylocichla us. swainsoni*). Summer visitor, rare; Craggy Mt.

4. Hermit Trush (*Hylocichla un. pallasi*). Winter visitor, tolerably common.

5. Robin (*Merula migratoria*). Tolerably common in both summer and winter and abundant during the migrations.

6. Mockingbird (*Mimus polyglottus*). A rare summer visitor; a pair bred in Weaversville during the past summer.

7. Catbird (*Mimus carolinensis*). An abundant summer visitor.

8. Brown Thrasher (*Horporhynchus rufus*). Tolerably common summer visitor.

9. Bluebird (*Sialia sialis*). A common resident.

10. Ruby-crowned Kniglet (*Regulus calendula*). A rare transient.

11. Gold-crowned Kniglet (*Regulus satrapa*). A common winter visitor.

12. Blue-gray Gnatcatcher (*Polioptila cærulea*). A common summer visitor.

13. Tufted Tit (*Lophophanes bicolor*). Resident, common.

14. Carolina Tit (*Parus carolinensis*). Resident, tolerably common.

15. Carolina Nuthatch (*Sitta carolinensis*). Resident, tolerably common.

16. Red-bellied Nuthatch (*Sitta canadensis*). Summer visitor, rare.

17. Brown Creeper (*Certhia familiaris rufa*). A common winter visitor, an abundant transient and a rare summer visitor.

18. Carolina Wren (*Thryothorus ludovicianus*). A common resident.

19. Bewick's Wren (*Thryomanes bewicki*). A rare summer visitor.

20. House Wren (*Troglodytes aedon*). A rare transient.

21. Winter Wren (*Troglodytes hiemalis*). A rare winter visitor.

22. Long-billed Marsh Wren (*Telmatodytes palustris*). A tolerably common transient.

23. Short-billed Marsh Wren (*Cistothorus stellaris*). A rare transient.

24. Titlark (*Anthus ludovicianus*). A rare transient.

25. Black and White Creeper (*Miniotilta varia*). Common summer visitor.

26. Blue Yellow-backed Warbler (*Perula americana*). A common summer visitor.

27. Worm-eating Warbler (*Helminthotherus vermivorus*). A rare summer visitor.

28. Blue-winged Yellow Warbler (*Helminthophaga pinus*). A rare summer visitor; Craggy Mt.

29. Golden-winged Warbler (*Helminthophaga chrysoptera*). A rare transient and rare summer visitor. A set of four eggs was taken on June 2, 1885 at the foot of Craggy Mt.

30. Nashville Warbler (*Helminthophaga ruficapilla*). A rare transient.

31. Tennessee Warbler (*Helminthophaga peregriva*). A rare transient.

32. Summer Warbler (*Dendrœca æstiva*). A common summer visitor.

33. Black-throated Green Warbler (*Dendrœca virens*) A rare transient.

34. Black-throated Blue Warbler (*Dendrœca cærulescens*). A tolerably common transient.

35. Myrtle Bird (*Dendrœca coronata*). A rare winter visitor and common transient.

36. Blackburn's Warbler (*Dendrœca blackburniæ*). A tolerably common transient and a rare summer visitor.

37. Chestnut-sided Warbler (*Dendrœca pennsylvanica*). A rare transient and rather common summer visitor in the mountains.

38. Yellow-throated Warbler (*Dendrœca dominica*). A tolerably common transient and a rare summer resident.

39. Redpoll Warbler (*Dendrœca palmarum*). A tolerably common transient.

40. Pine Warbler (*Dendrœca pinus*). A rare bird in summer and winter but common during the migrations.

41. Blue Warbler (*Dendrœca cærulea*). A rare transient.

42. Black and Yellow Warbler (*Dendrœca maculosa*). A common transient.

43. Cape May Warbler (*Perissoglossa tigrina*). A rare transient.

44. Oven-bird (*Siurus auricapillus*). A common summer visitor.

45. Wagtail (*Siurus nævius*). A rare transient and a rare summer visitor.

46. Large-billed Wagtail (*Siurus motacilla*). A common transient and a rare summer visitor.

47. Kentucky Warbler (*Oporornis formosa*). A tolerably common summer visitor.

48. Maryland Yellow-throat (*Geothlypis trichas*). A tolerably common summer visitor.

49. Yellow-breasted Chat (*Icteria virens*). A common summer resident.

50. Hooded Warbler (*Myiodioctes mitratus*). A rare transient and a rare summer visitor.

51. Black-capped warbler (*Myiodioctes pusillus*). A rare transient.

52. Canada Flycatcher (*Myiodioctes canadensis*). A tolerably common transient and a rare summer visitor.

53. Redstart (*Setophaga putialla*). A tolercommon transient and a rare summer visitor.

54. Scarlet Tanager (*Pyranga rubra*). A tolerably common summer visitor.

55. Summer Redbird (*Pyranga æstiva*). A rare summer visitor.

56. Barn Swallow (*Hirundo erythrogastra*). A rare transient.

57. Cliff Swallow (*Petrochelidon lunifrons*). A rare transient.

58. Rough-winged Swallow (*Stelgidopteryx serripennis*). A tolerably common summer visitor.

59. Purple Martin (*Progne subis*). A rare summer visitor.

60. Cedar bird (*Ampelis cedrorum*). A tolerably common resident, but very irregular and uncertain in its occurrences.

61. Redeyed Vireo (*Vireo olivaceus*). A common summer visitor.

62. Philadelphia Vireo (*Vireo philadelphicus*). A rare transient.

63. Warbling Vireo (*Vireo gilvus*). A rare summer visitor.

64. Yellow-throated Vireo (*Vireo flavifrons*). A rare summer visitor.

95. Blue-headed Vireo (*Vireo solitarius*). A tolerably common transient and rare summer visitor.

66. White-eyed Vireo (*Vireo noveboracensis*). A rare summer visitor.

67. English Sparrow (*Passer domesticus*). Tolerably common.

68. Red Crossbill (*Loxia americana*). Common in September, 1886, on Black Mt.

69. Purple Finch (*Carpodacus purpureus*). Rare winter visitor and rare transient.

70. Pine Finch (*Chrysomitris pinus*). Tolerably common transient and rare winter visitor.

71. Goldfinch (*Astragalinus tristis*). Abundant resident.

72. Grass Finch (*Poœcetes gramineus*). Common in winter and tolerably common in summer.

73. Yellow-winged Sparrow (*Coturniculus passerinus*). A rare transient.

74. Swamp Sparrow (*Melospiza palustris*). Tolerably common transient.

75. Song Sparrow (*Melospiza fasciata*). A common winter visitor.

76. Snowbird (*Junco hiemalis*). Abundant winter visitor and a common summer visitor on Craggy Mt.

77. Chipper Sparrow (*Spizella domestica*). Common Summer visitor.

78. Field Sparrow (*Spizella pusilla*). Abundant resident.

79. White-throated Sparrow (*Zonotrichia albicollis*). Common winter visitor.

80. Fox Sparrow (*Passerella iliaca*). Common winter visitor.

81. Rose-breasted Grosbeak (*Zamelodia ludoviciana*). Rare transient and still rarer summer visitor; Craggy Mt.

82. Indigo Finch (*Passerina aganea*). Common summer visitor.

83. Cardinal Grosbeak (*Cardinalis virginianus*). Common resident.

84. Chewink (*Pipilo erythrophthalmus*). Tolerably common resident.

85. Bobolink (*Dolichonyx oryzivorus*). A rare transient.

86. Cowbird (*Molothrus ater*). A tolerably common transient.

87. Red-wing Blackbird (*Agelæus pheniceus*). Tolerably common transient and rare summer visitor.

88. Field Lark (*Sturnella magna*). Tolerably common winter visitor and rare summer visitor.

89. Orchard Oriole (*Icterus spurius*). A rare summer visitor.

90. Baltimore Oriole (*Icterus galbula*). A rare summer visitor.

91. Rusty Grackle (*Scolecophagus ferrugineus*). Tolerably common transient.

92. Boat-tailed Grackle (*Quiscalus major*). A rare transient.

93. Purple Grackle (*Quiscalus purpureus*). A rare transient.

94. Raven (*Corvus corax carnivorus*). A rare resident.

95. Crow (*Corvus frugivorus*). An abundant resident.

96. Blue Jay (*Cyanocitta cristata*). A tolerably common resident.

97. Bee Martin (*Tyrannus carolinensis*). A rather rare summer visitor.

98. Great Crested Flycatcher (*Myiarchus crinitus*). Tolerably common summer visitor.

99. Pewee (*Sayornis fuscus*). A rare winter and common summer bird.

100. Olive-sided Flycatcher (*Contopus borealis*). A rare transient.

101. Wood Pewee (*Contopus virens*). A common summer visitor.

102. Acadian Flycatcher (*Empidonax acadicus*. A common summer visitor.

103. Least Flycatcher (*Empidonax minimus*). A rare summer visitor.

104. Whip-poor-will (*Antrostomus vociferus*). Rather rare summer visitor.

105. Nighthawk (*Chordeiles popetue*). A common transient and tolerably common summer visitor.

106. Chimney Swift (*Chætura pelasgica*). An abundant summer visitor.

107. Ruby-throated Hummer (*Trochilus colubris*). A common summer bird.

108. Kingfisher (*Ceryle alcyon*). Rather rare in summer and rarer in winter.

109. Black-billed Cuckoo (*Coccoyzus erythrophthalmus*). A tolerably common transient and rare summer visitor.

110. Yellow-billed Cuckoo (*Coccoyzus americanus*). Rather rare during the migrations and rarer still in summer.

111. Hairy Woodpecker (*Picus villosus*). Rather rare resident.

112. Downy Woodpecker (*Picus pubescens*). Tolerably common resident.

113. Pileated Woodpecker (*Hylotomus pileatus*). A rather rare resident. Took a set of three eggs on April 20th, 1886.

114. Yellow-bellied Woodpecker (*Sphyrapicus varius*). Tolerably common resident.

115. Red-bellied Woodpecker (*Centurus carolinus*). Tolerably common resident.

116. Red-headed Woodpecker (*Melanerpes erythrocephalus*). Rather rare in winter and tolerably common in summer.

117. Yellowhammer (*Colaptes auratus*). An

abundant transient but rare in summer and winter.

118. Great Horned Owl (*Bubo virginianus*). Tolerably common resident.

119. Screech Owl (*Scops asio*). A rare resident.

120. Short-eared Owl (*Asio accipitrinus*). Accidental.

121. Barred Owl (*Strix nebulosa*). Very rare resident.

152. Snowy Owl (*Nyctea scandiaca*). Accidental.

123. Swallow-tailed Kite (*Elanoides forficatus*). Accidental.

124. Sharp-shinned Hawk (*Accipiter fuscus*). A rare resident.

125. Cooper's Hawk (*Accipiter cooperi*). A tolerably common resident.

126. Duck Hawk (*Falco peregrinus nævius*). A rare summer visitor on Craggy and Black Mts.

127. Sparrow Hawk (*Falco sparverius*). A rare summer visitor.

128. Red-tailed Hawk (*Buteo borealis*). Tolerably common resident.

129. Red-shouldered Hawk (*Buteo lineatus*). A tolerably common bird in summer and common in winter.

130. Broad-winged Hawk (*Buteo pennsylvanicus*). A rare summer visitor.

131. Swainson's Hawk (*Buteo swainsoni*). Accidental.

132. Golden Eagle (*Aquila chrysaetus*). A very rare resident.

133. Bald Eagle (*Haliætus leucocephalus*). A rare resident.

134. Osprey (*Pandion haliaetus*). A very rare summer visitor.

135. Turkey Buzzard (*Cathartes aura*). A common resident.

136. Carrion Crow (*Catharista atrata*). A rare summer visitor.

137. Wild Pigeon (*Ectopistes migratorius*). a rare transient.

138. Carolina Dove (*Zenaidura carolinensis*).

139. Ground Dove (*Chamæpelia passerina*). Accidental.

140. Wild Turkey (*Meleagris gallopavo americana*). A rather rare resident.

141. Ruffed Grouse (*Bonasa umbellus*). A rather rare resident.

142. Quail; Bob White (*Ortyx virginiana*). An abundant resident.

143. Killdeer (*Oxyechus vociferus*). A tolerably common transient.

144. Woodcock (*Philohela minor*). A rare resident.

145. Wilson's Snipe (*Gallinago wilsoni*). A tolerably common transient.

146. Least Sandpiper (*Actodromas minutilla*). A rare transient.

147. Solitary Sandpiper (*Rhyacophilus solitarius*). A tolerably common transient.

148. Spotted Sandpiper (*Tringoides macularius*). A common resident.

149. Great Blue Heron (*Ardea herodias*). A rare transient.

150. Snowy Heron (*Garzetta candidissima*)). A rare transient.

151. Little Blue Heron (*Florida cærulea*). A rare transient.

152. Green Heron (*Butorides virescens*). A tolerably common transient and rare summer visitor.

153. Bittern (*Botaurus lentiginosus*). A rare transient.

154. Clapper Rail (*Rallus longirostris crepitans*). A rare transient.

155. Sora Rail (*Porzana carolina*). A rare transient and rarer summer visitor.

156. Coot (*Fulica americana*). A rare transient.

157. Wild Goose (*Anser albifrons gambeli*).

158. Mallard (*Anas boscas*). A rare transient.

159. Dusky Duck (*Anas obscura*). A rare transient.

160. Pintail (*Dafila acuta*). A rare transient.

161. Green-winged Teal (*Nettion carolinensis*). A tolerably common transient.

162. Blue-winged Teal (*Querquedula discors*). A rare transient.

163. Shoveller (*Spatula clypeata*). A rare transient.

164. Summer Duck (*Aix sponsa*). Accidental.

165. Buffledhead (*Clangula albeola*). A rare transient.

166. Golden eye (*Clangula glaucium americana*). A rare transient.

167. Hooded Merganser (*Lophodytes cucullatus*). A rare transient.

168. Pied-billed Grebe (*Podilymbus podiceps*). A tolerably common transient.

169. Loon (*Colymbus torquatus*). A rare transient.

Summer Birds of Heron Lake.

BY THOMAS MILLER.

One day early in May last, I left home to go and visit a large Heronry situated in the adjacent swamp that environs the south end of North Heron Lake, for Heron Lake is divided into two parts by a strip of dry land about half a mile wide north of which lies an extensive swamp skirting the south end of North Heron Lake. In this the Herons breed and rear their young. This swamp contains many small open sloughs, varying in size from half an acre up to some containing fifty acres. This is the favorite nesting place of all kinds of water fowl, from a Green-winged teal up to a Goose in size, including the rather rare Ruddy Duck, *Erismatura rubida*.

In this swamp among the canes which grow from seven to ten feet high, a large colony of the Black-crowned Night Heron, (*Nyctiardea grisea nævia*) make their home year after year. I first made their acquaintance in the fall of 1884, while shooting Mallard in September, but by that time of course their marital labors had come to an end, and they were enjoying their *otium cum dignitate* previous to their departure for their winter home.

The number of nests is very great, each being raised two or three feet above the water by pieces of dead cane being laid horizontally one above another—the top being about fifteen inches in diameter, some, of course being less, and some perhaps more. The top is depressed a little to make it capable of holding the eggs, which are usually from three to five in number. Four seems to be the most common clutch. In size they are a shade larger than the Blue-winged Teal, and light blue in color.

The nests are usually built among the canes, where the water is from six inches to eighteen inches in depth, and sometimes they are not over five to six feet apart. This year on visiting them I found them in greater numbers than last, a great many new nests having been constructed and all of the old ones occupied. On my way from my boat through the canes to the Heronry I made an interesting discovery. At one hundred and fifty yards from the lake shore where I left the boat, I struck a small pond of open water, fringed by last year's sedge and canes. On nearing some canes, a Canvas-back (female) flew out and winged her way to a small bay lying south east; a favorite feeding ground of Canvas-backs. On going towards the bunch she flew out of, I found a nest of eight eggs built on top of some of last year sedge, in water about knee deep.

By this time I had approached some Heron's nests and they were filling the air with their discordant quawk, and some were dropping into their nests again not over thirty feet from me.—my presence seeming to disturb them very little. If not too much noise is made, only those ten to twenty yards distant remain in the air after the first alarm—all the others drop into their nests and go on with the hatching process.

I noticed not over one in twenty nests had five eggs; a few had two and three, and the bulk four.

The adult bird in Spring plumage is very handsome. The white occipital plumes give him a very striking appearance contrasted with his large staring eyes and powerful beak. This colony must contain from 1500 to 2000 nests, and their owners can be seen in the evening winging their way to every slough and pond for miles around. I often sit at the door on a Summer evening and watch them flying over the duck pass—on their way to the extensive marsh lying on the north and east side of the house—for a feed of fish and frogs. They usually go in bunches of from two to eight. The Red-winged Blackbird (*Agelaius phœnicene*) often gives him a drubbing for venturing near his nest and poor Mr. Heron has to take it and get away as fast as he can.

Their departure in the Fall and arrival in the Spring is nearly coincident with that of the bulk of the ducks. Last Fall I noticed some away into the middle of November. I think they must have been shot at and hurt, for at that time it was quite cold.

Remarkable Nesting of the Ground Dove.

Mr. Arthur T. Wayne writes that on October 19th, 1886, he took a set of eggs (two in number) of the Ground Dove, *Chamæpelia passerina*, near Charleston, S. C., containing small embryos; and secured the male bird while incubating.

Mr. Wayne continues: "I can hardly understand why they are breeding now, as they only breed in April, May and June—never later. I think it extraordinary."

If the above statement came from a less well-known gentleman than Mr. Wayne it might well be doubted; but the discoverer of the nesting place of Swainson's Warbler, *Helonæa swainsoni*, besides being a celebrated collector, is a gentleman whose word can be implicitly relied upon.—*J. P. N.*

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Editorial.

Our magazine has, during the eleven years of its existence, very plainly shown its purpose and aim, and its creed, if it so be called, will not change for the present year. It offers its columns for an interchange of notes on the interesting study of Bird and Insect life with preference only given to articles of authentic source and originality, without regard to personalities of authorship. It may not seem like a grateful spirit to our kind contributors to dictate to them any rules of subject composition, yet, while knowing fully the high value of the study of migration of birds, we would advise a systematic record of each locality be kept and sent to proper authorities. Another prominent feature with ornithological writers is to give lists of birds of various sections of the country, complete in nomenclature but meagre in detail of habits We would greatly prefer more extended accounts of each species, as the writer might set forth in his own original experience. Brief lists of localities, but little known would be both valuable and in proper form with the value of the contents of this journal.

Having thus frankly laid our desire before our readers we hope to receive an appreciation of our efforts to produce a magazine which will serve as present information and future reference.

As a valuable contribution to our knowledge of the ornithology of the North Carolina mountains we present a list of the birds of Bumcombe County, N. C., by a competent observer and Dr. LeMoyne's article upon the birds of the region will be omitted in this issue.

The subscription rate of the O. AND O. with Volume X was increased to $1.50 in proportion to the increase in size. It has been the intention, when the subscription met the expense to either increase the size or reduce the price. From arrangements that have been made, and the steady increase of subscriptions, it is deemed advisable to reduce the price for 1887 to $1.00 per annum. As many subscriptions have already come in and many more will before the change is generally known, we propose to enter the names of all who send the previous rate [of $1.50] for 18 months. This will make the O. AND O. the cheapest publication of its nature offered to the Ornithologists of the country, and it is hoped that the ranks of its friends will be filled, so as to prevent a loss, which the reduction would otherwise ensure.

Hereafter complimentary numbers will not be sent out except to correspondents whose articles appear in the issue.

Development of Birds.

BY WALTER HOXIE.

In the present article, I shall try to touch upon a few points to set others thinking, rather than to discuss with any depth a very broad subject. Last summer I received through the kindness of Professor Marsh, his valuable monograph on the Birds, and a study of its pages has enabled me to group together many facts and previous ideas of my own. Where are the scientists of the future? I doubt not many of them are among the readeas of the ORNITHOLOGIST AND OÖLOGIST, and if I give even one of them "a peg to hang an idea upon," I shall feel sure I have done well.

Several years ago I had an indistinct idea that birds might be descended from two types of ancestors, and that Grebes and Terns were very ancient forms surviving with less change from their earlier families than many other types. Among Batrachians we find two types,— the Frogs and the Newts — which develope quite differently and it seems to me as if the Grebes and Terns were respectively analogous to them. My belief in their antiquity was based upon the fact that the waters of the globe were early fitted for their existence, and that up to the present time there hád been fewer changes in their favorite habitat than in that of such birds as frequent woodland resorts. Between these two and by a similar course of reasoning, I placed on the one hand the beach birds and on the other the Rails, Herons and their allies.

The Grebes have strong hind limbs. The Frog's hind legs are the first to develop. The Terns are remarkably strong of wing. The fore-leg of the Newt are the first to appear. In Professor Marsh's work the huge Grebe retains its tail. I picture to myself the big diver struggling with its prey, held fast in its strongly toothed jaws and able to regain the surface of the water with comparative ease by means of its powerful rudder.

On the other hand, the Terns being early fitted for flight would have less use for this appendage. Their aerial gyrations were better directed by a wide feathered caudal adjunct. Hence their superfluous vertebræ were lost at a very early date, and their place supplied by the delicate forked tails which now survive.

Possibly a reminesence, — the word is expressive rather than correct in this connection, —of teeth still exists and accounts for the lengthening of the bill of the Royal Tern. I have often noticed this myself and Coues mentions it in his Birds of the Northwest.

The transitions from one to the other of the three adaptations of the vertebræ,— hollowed, jointed or faced, is very easy and no doubt required but a comparatively short period to be thoroughly accomplished. Professor Marsh points out a close similarity between the Royal Tern and one of his ancient forms. In the neck is the last vestige apparently, of the vertebra peculiar to the ancestral type. The Grebes found early the need of a long and flexible neck. In the huge extinct species it was also no doubt strong and muscular, as figured in the article by Dr. Shufeldelt in the Century magazine. But the Terns capturing their prey from above the watery element by a well aimed dash, had no need of such an extent of material in the neck, and hence the ancestral type of vertebra remained less modified in them.

The above considerations seem to me to preclude any strictly consecutive arrangement of birds into classes. Many have doubtless met with the same difficulty that I encountered long ago when certain families, do all I could, would seem to arrange themselves in parallel lines.

If the considerations which I am discussing are sufficiently tenable to form the basis for a good theory, the parallel or gradual divergement and consequent system of classification, will be the more correct one.

Eggs of the Broad-winged Hawk.

BY J. P. N.

The size of the eggs of this species, (*Buteo pennsylvanicus*) has often been incorrectly given by writers. It is almost always stated to be larger than a series of eggs of this hawk would seem to indicate—thus leading to the suspicion that the eggs described were not really those of *Buteo pennsylvanicus*, but probably often those of *Buteo lineatus*.

Audubon does not give measurements of the eggs of this species, but says that they "are four or five, of a dull grayish-white, blotched with dark brown." Experience seems to prove that they are but rarely four and never five.

Dr. Brewer, in his *North American Oölogy*, thought that three eggs were the usual number for this bird, and gave the size of three single eggs in his cabinet, collected in Pennsylvania, Vermont and New Jersey, as follows: 2 1-16x1 9-16; 1 15-16x1 8-16; and 1 14-16x1 8-16 inches. He figured three eggs in Plate I. of his work, collected in New Jersey, Pennsylvania and Florida. Measuring these illustrations with calipers gives this result: Figure 8, (from New Jersey,) 1.99x1.55; Figure 9, (from Pennsylvania,) 2.06x1.58; Figure 10, (from Florida), 2.08x1.63 inches.

Samuels (in his *Ornithology and Oölogy of New England*) relates that he found a nest of this (?) species on May 20, 1864, in West Roxbury, Mass., that contained four eggs. He gives their measurements as varying from 2.00 x1.70 to 2.15x1.72 inches. Their color was "a dirty yellowish-white, covered more or less thickly in the different specimens with blotches of reddish-brown." In size and appearance, judging from the above description, these were very similar to some eggs of *Buteo lineatus*, and they are open to the suspicion of having belonged to that species, as Mr. Samuels does not say how they were identified. The egg that is figured in Samuels' book, (Plate I, figure 5,) as belonging to *Buteo pennsylvanicus*, only measures 1.86x1.51 inches.

The nest found by Mr. Samuels is referred to by Dr. Coues (in his *Birds of the Northwest*) and the measurements given by Samuels are the only ones mentioned by Dr. Coues. In his *Key*, however, Dr. Coues gives the measurements as "eggs 3-5, 2.00x1.60, heavily marked."

Dr. Wheaton (in his *Report on the Birds of Ohio*) evidently followed Samuels' measurements, for he states that "the complement of eggs is four, and they vary in size from 2.15 by 2.00 to 1.72 by 1.70."

Langille (in *Our Birds in their Haunts*) says that the eggs are "three or four, some 2.10 x 1.65."

Davie: (*An Egg Check List*, first edition:) "three or four; 2.09x1.61." In the second edition of his work he describes them as "grayish or dirty white, more or less blotched with light umber, reddish, yellowish and purplish-brown, with a dull shade approaching black; three to five are laid, measuring from 2.00 to 2.15 long, by 1.70 to 1.72 broad."

Now having examined the authorities let us see what results a series of ten sets before the writer give:

Set I. Blue Mountains, Northampton County, Penn., May 18, 1885. Three eggs, fresh. No. 1: 1.76x1.50. Dull white, blotched all over with faint lilac, and over these a few brown specks. Almost as blunt at one end as the other. A very peculiar egg for this species. No. 2: 1.74x1.52. Dull white, faintly marked with pale lilac, with a very few brown specks. Almost equally rounded at both ends. No. 3: 1.88x150. Dull white, with hardly any lilac markings. Has a few brown specks, but they are more distinct than in the other eggs of this set. This specimen is quite pointed for *Buteo pennsylvanicus*.

Set II. Framingham, Mass., May 25, 1884. Three eggs, fresh. No. 1: 1.95x1.52. Dirty white, thickly blotched with pale lilac. Has a few brown specks and one distinct blotch of the same color. No. 2: 1.91x1.54. Dirty white, thickly covered with small blotches of faint lilac. Has one or two small brown spots. Quite pointed. No. 3: 1.87x1.53. Yellowish-white, thickly covered with very small, faint yellowish-brown specks and spots.

Set III. Pelican River, Becker County, Minn., May 19, 1886. Three eggs, incubation begun. No. 1: 1.90x1.54. Light yellowish-white, beautifully blotched diagonally across the whole egg with spots of faint purplish-brown. At the smaller end they are larger and thicker. No. 2: 1.96x1.51. Light yellowish-white, faintly marked with small and faint specks of purplish-brown, closer together at the smaller end of the egg. One or two blotches of the same color. No. 3: 1.95x1.52. White, beautifully marked with spots and blotches of bright redish-brown, tending to become larger and more numerous at the smaller end. There are no lilac markings on this egg.

Set IV. Floyd Lake, Minn., May 20, 1886. Three eggs, incubation begun. No. 1: 1.93x 1.54. Yellowish-white, very heavily marked with spots and blotches of dark brownish-red. In one or two places the markings are so close that they almost obscure the ground color. One blotch is much darker than the others, and they are closer together near the larger end. A remarkably handsome egg. No. 2: 1.92x1.57. Yellowish-white, thickly marked with lilac splashes and spots. Over these are a few reddish-brown specks. No. 3: 1.90x1.55. White, quite heavily spotted and speckled with faint lilac, becoming confluent at the smaller end. Over these are a few brown specks.

Set V. Floyd Lake, Minn. May 24, 1886. Three eggs, incubation far advanced. No. 1: 1.95x1.51. Very pointed for this species. White, heavily and most beautifully marked with bright chestnut-brown blotches, heaviest near the smaller end, where they form an indistinct circle. A beautiful egg, the handsomest in the series. No. 2: 1.98x1.51. White, very heavily marked at the smaller end with bright chestnut-brown. On one side the spots extend to the centre of the egg, but most of the surface (except the smaller end) is unspotted. A strikingly handsome egg. No. 3: 1.91x1.50. White, almost unmarked. Has a few straggling line-like markings at the smaller end. A great contrast to Nos. 1 and 2 in this set.

Set VI. Monroe County, Penn., June 6, 1885. Two eggs, fresh. No. 1: 1.91x1.55. Dirty white, heavily marked with dark reddish-brown spots and blotches, thickest at the larger end. No. 2: 1.85x1.55. Dull white, thickly covered over nearly the whole surface with lilac blotches and spots, closer together at the larger end.

Set VII. Lafayette County, Miss., May 18, 1886. Two eggs, incubation far advanced. No. 1: 1.90x1.46. Yellowish-white, thickly spotted and blotched with bright chestnut-brown all over the egg. A beautiful specimen. No. 2: 1.90x1.43. Dirty white, smeared all over more or less thickly with faint lilac. Over this a few brown specks.

Set VIII. Lafayette County, Miss., April 9, 1886. Two eggs, fresh. No. 1: 1.98x1.54. White, beautifully blotched with bright chestnut-red. The blotches are thickest at the smaller end, where they become confluent. A very handsome egg. No. 2: 2.01x1.62. Dull white, thickly speckled and blotched with lilac and light redish-brown, closer at the smaller end.

Set IX. Lafayette County, Miss., May 15, 1886. Two eggs, incubation far advanced. No. 1: 1.91x1.49. White, very heavily blotched with dark chestnut-brown. A beautiful egg. No. 2: 1.85x1.46. White, almost wholly obscured with faint lilac patches, thickest at the smaller end. Over this, at the smaller end are a very few spots of dark chestnut-brown. One of these measures .60x.52 and is very striking.

Set X. Northampton County, Penn., May 17, 1884. Two eggs. No.1: 2.06x1.54. Dull white, thickly covered with lilac specks and blotches. No. 2: 1.99x1.53. White, thickly spotted and blotched with bright reddish brown. At the smaller end the blotches become confluent. A beautiful egg.

Does not this series indicate that the size of the eggs of this species generally given by writers is larger than authentic specimens measure?

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The Home of the Bittern.

BY F. H. C.

Standing on the edge of some inpenetrable bog, into which he hies himself if too closely approached, the Bittern, *Botaurus lentiginosus*, resents the usual investigation afforded by other less interesting species. When disturbed from his uncouth attitude, his subsequent actions are soon lost to view, and if he falls a victim, the poor lifeless body relates none of the history of its past existence. Renowned devotees of the science of Bird-life have sought the sequel to their northward migration, but in few instances have they been rewarded for their labor. The surrounding circumstances have in many cases proven too much for human endurance or malarial constitution.

During one of my sojourns amongst the wilds of Maine, fortune granted me a glimpse at the home of a pair of these birds. At the northern end of Lake Umbagog, is a swamp of considerable extent, caused by the dam at Errol. At this place in the latter part of May, 1883, I spent a week in company with Joe Sampson, the famous Dead River guide; who in answer to a question I put to him, informed me that "Meadow Hens" were "tolerble thick in crane swamp." Often had I seen the Bittern fly across the corner of the lake and disappear in the direction of the above named swamp, and from its recesses I have heard its curious Spring note, which may be said to resemble, to a certain degree, the sound produced by striking an axe upon a stake; but any ornithologist who would be misled into following the direction of the sound, thinking it was produced by the latter cause, had better not stray far from home; in my opinion he would get lost on Boston Common.

On June 2nd my hesitating mind had arrived at one conclusion: I would explore the swamp; but it must be confessed I had no assurance of success. The next day we began operations, and at noon the bow of the canoe was turned towards Moll's Rock. Soon we entered the overflowed tract, and paddled under the decaying trees, killed by the overflowing of the water. At evening we had reached a camping spot; a small island which afforded a dry bed and black flies. This was the limit of our travel by our canoe; and the next day's rising sun found us wading waist deep in the cold water, towards the marsh. The country in which we were now was indeed a desolate wilderness, sufficient to inspire a sense of homesickness in the explorer. The dead hemlocks shorn of their limbs, raised their immense trunks high in the air, as monuments to the destruction of the forests. Underneath were their stricken fellows lying as watersoaked obstacles to our march; and ever and anon some unseen hole would immerse us still deeper in the chilly fluid. Three hour's patient application brought us to the "bog." This was indeed more desolate than the swamp behind us. A few dead trees alone broke the monotony of treacherous quagmire and shaky bog. A few alders fringed the edge, and a large expanse of water in the centre was a relief to the eye. My companion stood by my side in silent contemplation of the scene. With all his experience in the north wilderness, he deemed this unknown swamp worthy of much caution and hesitating procedure. From Errol swamp came the hoot of the Barred Owl, and a Loon in the pond before us answered with his wailing cry. But a more welcome sight met our gaze, as we saw a Bittern slowly flapping his way across the marsh with a frog impaled on his spear-like bill. Lower and lower he came, and at last settled his flight in a bog at the side of the swamp. Leaving my companion as a landmark, that we might remember our entrance point, I started toward the bog, bespattering myself with mud and slime in my amphibious exertions. Reaching the edge of the grassy spot I proceeded slowly with attentive gaze upon the surface. Soon I perceived the top of the young swamp grass indicate by its motions the passage of some object hidden in its cover, and again I saw it repeated, but in a different direction. As I happened at this time to catch the source from whence the wavy line sprang into existence, I was enabled to speedily find the object of my search. Placed upon a heap of dry grass and coarse brakes, I found four light drab eggs which needed no second person to assure me were eggs of the American Bittern, and as I stood in contemplation of the pleasing sight, the telltale grass again gave indication of the stealthly approach of the birds, and soon I saw the pointed beak and staring yellow eyes protruding from their hiding place and gazing ruefully at the invader of their home; but when I bestirred myself to secure my new found treasures, they knew the curtain was about to ring down on the last act, and the grassy cover informed me that they were gone.

It is needless to say my exertions were counted as nothing when compared with the experience gained, and when in my Woodcock cover, in Southern New England, I stumble upon the Bittern, it brings vividly to my mind the scene not far from the wooded shores of Umbagog; and my cartridge is witheld for game more *unworthy*.

Eggs of the Mississippi Kite.

[I have been permitted by Capt. Charles E. Bendire to publish the following letter from him, concerning the eggs of the Mississippi Kite, (*Ictinia subcærulea*). It was not originally written for publication, but its contents are of such interest that I asked and obtained his consent to publish it.—J. P. N.]

United States National Museum,
under direction of
The Smithsonian Instution.

Washington, Nov. 24th, 1886.

My dear Mr. Norris:

I had not the time to read the Nov. number of the O. and O. before, but have done so now, and find Mr. Singley's article on the Mississippi Kite quite interesting.

The eggs you showed me as obtained from him, are, as I told you at the time, unquestionably those of this bird. We have four of these eggs all out of different nests. I presume the mates found their way into some other collections. All are as Mr. Singley states, a dull bluish or greenish white, and absolutely unspotted. The ground color is paler than in the eggs of the Cooper's or of the Marsh Hawk, but this may be due to the length of time they have been taken. The record books happen to be over in the other building, and I cannot give the years; but three specimens were taken respectively on June 2nd, 5th and 12th on Trout Creek, Texas, during the Boundary Survey, in the early '60's I think, by C. S. McCarthy; and one egg from the Kiowa Agency, taken by Dr. E. Palmer.

These eggs vary greatly in size, measuring as follows: 1.72x1.40; 1.68x1.32; 1.60x1.32; and 1.52x1.24. The parent in each case is in the collection here.

Mr. Singley's is by far the best description we have of the nest of this species, and I should like very much to get a nest from him for the Museum collection as a type specimen.

There is a bare possibility that an occasional egg of this species is more or less spotted, just like in Cooper's and the Marsh Hawk, but as a rule they are unspotted.

Yours sincerely,
Chas. E. Bendire.

Nesting of the Canadian Flycatching Warbler.

BY WM. L. KELLS, ONTARIO, CANADA.

According to my observations, this species (*Myiodioctes canadensis*) in its general appearence and habits, much resemble the Small-billed Water Thrush (*Siurus nævius*) as does also its nest and eggs, except of course, that they are smaller in size. In this neigborhood

I have noticed this species only in one locality, and that was bordering on low, swampy, soft, wood lands, which seem to be its favorite haunts during the period that it remains in this country.

I first noted this bird and discovered its nest in the early part of June, 1882. The first nest seen was on the 6th of that month, and. when discovered, the female was engaged in constructing it; and when disturbed made so much ado about it that her mate soon appeared upon the scene and joined in the general scolding. The site chosen was a cavity in a low bank, on which grew a small hemlock, near a pool of water on the margin of a swamp.

The same day I found another nest of the same species, from which I afterwards took a set of five eggs. This was placed in a corner of a turned up root, the top of which hung over sheltering it from the sun, rain and observation, except upon close inspection; and beneath it was a pool of water. (The season before I took from this root a set of the eggs of the Black Snow bird (*Junco hyemalis*) and the next summer saw in it a nest of the Winter Wren (*Anorthura troglodytes hyemalis*) in which a brood of young had evidently been raised). On this nest the female sat until almost touched by the hand, but her mate always seemed to be near, and his pleasing, but somewhat plaintive melody seemed, if I mistake not, closely to resemble the songnotes of the White-crowned Sparrow (*Zonotrichia lencophrys*).

I saw no more nests of this species until the 30th of May, 1886. On that date my son and myself were hunting in a piece of woods in the same locality, when a bird flushed from a small space between where we passed and darted into some thick underwood, where her mate and those of her mates soon gave us to understand that their nest was near. A short search revealed the nest placed in the cavity of a small bank, overhung by weeds and some underwood. The nest itself was composed of a few dry leaves; small stalks of dry weeds; rootlets and fine hair. It contained five beautiful eggs, that were but slightly incubated, and are now in my collection, but the materials of the nest, however, were so loosely put together, that it soon fell to pieces upon being removed. The eggs, which measure .68 by .52, are of a clear white hue, finely marked with dots and small blotches, especially towards the large end, of brown, purple and reddish, ranging in shades and tints.

Nesting of Bell's Vireo.

BY EDWIN C. DAVIS, GAINESVILLE, TEX.

This species (*Vireo belli*) is the most common of all the vireos inhabiting Northern Texas. It arrives from its Southern Winter home early in April, and its presence is always known by the familiar warbling song which it utters. It is a very familiar little bird, seeming to prefer the whereabouts of men to the more uninhabited regions; in fact I have never taken a nest of this species anywhere remote from man. Its principal place of nest building is in the well shaded orchards, or in some broad leaved-tree, such as the osage-orange or persimmon. About twenty days after arriving it begins to perform the duties of nidification.

Their little warbling song is very simple, and is composed of only five or six syllables, but it is very sweet to the ear, and very treacherous to the bird itself. During the breeding season the little singer may always be found at home, and as it is continually warbling its little ditty, one may at once locate the nest by the song.

The nest is a very pretty piece of bird architecture, very much resembling that of the Yellow Warbler, *Dendrœca æstiva*, being composed of about the same materials; only instead of straddling the forks of a small limb, as of the former, it is always pensile from a small horizontal branch the upper edges of the nest being securely bound to the small twigs of a fork. It is not as rough in appearance as that of the warbler, but is very compact and smooth. The principal materials used in its construction are the outer bark of weed stalks; bark of the grape vine, paper torn in small fragments, rags, dried petals of flowers, etc., lined with soft feathers and down; and then an inter lining of fine rootlets and black hair of the horse's tail.

The usual number of eggs deposited are four, of a pure white color, sparingly sprinkled with points of dark umber brown, at the greater end. Measurements of four eggs now before me are: 72x51; 71x51; 72x50; and 72x52.

The nest of this species seems to be the favorite receptacle for the eggs of the Cowbird, *Molothrus ater*, and you rarely if ever find a nest without one or more eggs of this bird. There is one thing, however, which puzzles me, and that is, I have never yet found a young Cowbird in a Vireo's nest. They must dispose of the egg in some way. And I have frequently found nests of the Vireo (containing both the owner's eggs and those of the Cowbird) entirely deserted.

ENTOMOLOGY.

J. A. WRIGHT.
265 No. Beacon St., Brighton, Mass.,
ASSOCIATE EDITOR.

Address all communications for this department as above.

With this issue, the Entomological Department commences its second year. We thank our correspondents and readers for their kind assistance and forbearance. We have had many difficulties to contend with and many of the articles have been too liberally seasoned with errors; still we congratulate ourselves on the fact that almost every article was original, and the experiences of practical collectors.

In continuing this department we ask the assistance of our Entomological friends, both by their subscriptions and contributions of short articles on the insect fauna of their localities. A little aid from each, would soon make this a valuable medium for the interchange of views and the dissemination of useful knowledge, relating to the descriptions, habits and distribution of the insects of our country.

The new year, in ringing in its changes has not missed us. Mr. Bates, owing to a pressure of outside business, has concluded to withdraw from the Editorial management of this department. He has been a faithful worker and was ever ready and anxious to create an interest in our branch of science. We have not lost his services, however, as he has promised that we shall hear from him often.

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Sphingidæ of New England.

BY WRIGHT & BATES.

SPHINX GORDIUS, H.

Palpi reddish-brown; head, ashy-gray.

Thorax dark brown, bordered with gray, and with a gray dorsal spot; tufts on metathorax black.

Abdomen ashy-gray, with a slender black dorsal line, and a broad, tapering black stripe on either side, cut at the first three anterior segments with very light gray.

Anteriors darker gray, with a brownish cast; a brownish band crosses the wing near the base, followed by another just beyond the disc, and a third crosses the nervules, nearly parallel with the second, both being bent in the middle, toward the margin; marginal space brown, crossed near the anal angle by a darker brown band, bordered with gray, which extends to about the median vein; the median and submedian veins are outlined with black and a slender black line originates near the base of the wing and crosses the disc, following beyond it the third sub-costal vein. Discal spot white. Two black dashes occupy the spaces between the median and the first, and the first and second sub-median veins just below the discal spot. The apical line is black, and the spaces between the sub-costal veins are marked with black lines. The costal vein, near the apex, is bordered anteriorly with gray.

Posteriors light gray, with a brown band crossing the middle and connecting with the middle band on the anteriors, margin broadly bordered with dark brown.

Fringes white, dotted at the ends of the veins with brown.

Underside of anteriors light brown, and of posteriors gray, both being crossed about the middle by a brown band, and margined with the same color, the marginal band being most conspicuous on the posteriors.

Expanse three and one-half inches.

Mature larva bright green, with a light stripe on either side of the head, and seven oblique white stripes, bordered above with violet, on either side of the body. Caudal horn reddish-brown. Length about two and one-half inches.

Transformation subterranean.

Food plants, apple and ash and according to Fernald, bay berry.

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Theories Entomological.

BY PAUL REVERE.

I noticed, recently, going the rounds of the press, a lengthy article upon the power of fish and burrowing larvæ to stand freezing and suspended animation for months, after which they are easily resuscitated by being thawed out. The author of the article was a Dr. Pierce. He appeared to me to write more glibly than intelligently upon the subject, and to cover a theory which he had no facts to demonstrate.

I do not believe his assertion that the pupæ of earth burrowing larvæ are frozen solid in winter, and thaw out in the spring without injury to the moths. I do think they can stand extreme exposure and frost and still survive.

The process of freezing implies something more than the mere solidifying of the exposed body. It implies expansion. Any observer of the action of ice in nature knows that it will split boulders and rend ledges as surely as dynamite, if not as suddenly. No one can estimate the expansive force of ice. In view of this fact, it seems to me that an unsupported assertion that all the pupæ of burrowing larvæ survive solid freezing is a fiction. The strain upon the tissues would be such as to destroy them. Freezing and thawing are disintegrating forces, and so far as I am capable of observing, no life where juices are involved can withstand them.

My experience with burrowing larvæ satisfies me that shelter and warmth are considered by them in the selection of their resorts for winter. They always select a sheltered and well protected spot for their burrows; and by a glutinous fluid, which they exude, make them water tight. They withstand cold the same as vegetation does. Our hardiest shrubs cannot stand solid freezing! The sap lies in its earth-fonts and the trunks and stems stand dry and frosty in the winter air. The winter, when the sap-centres beneath the ground are frozen, is followed by the spring in which we say: "the shrub was winter-killed."

Ready writers are too hasty to advance strange and bewildering themes. Mrs. Mary Weat, in 1873, proclaimed that by careful experiment, she thought she had demonstrated "*that sex could be controlled in breeding butterflies!*" While others have by experiment found that size and color can be varied by changes of food and temperature. I believe no one, in the fourteen years which have since elapsed, has corroborated this remarkable statement, which at the time it appeared in The American Naturalist, created no little excitement among naturalists, and called out many and diverse opinions upon the subject.

Dynastes Beetles.

I have already alluded to these interesting beetles in the O AND O and although it is many years since I have taken any specimens, no doubt a description of the locality and the incidents of capture will be interesting.

It was a sweltering hot morning in early March; I had vainly endeavored to move my leaky dugout from a mud bank on which ebb tide had grounded her, so I made a virtue of necessity, "staked" my clumsy craft and after removing my nether garments I "bogged" ashore to a little palmetto island which was the culmination of the mud bank that had brought me to grief.

It was not a very jolly adventure on the start. When the slimy mud did not adhere to my unprotected extremities the sand flies did adhere. (Some well posted reader please give me their seven by nine name.* I have called them everything I know and some things that I ought not to know and would be glad to say just the right thing at last). I raised a "smudge" of green cedar and as the fragrant smoke curled around me I dug about in the dirt with a stick in mere idleness, till suddenly I turned up such a monstrous beetle as I never saw before.

I sat and gazed in astonishment and then took it up very gingerly, for that strong long prow seemed just fitted to give a fellow a hard nip unawares. But the beast turned out to be harmless and quite sluggish, so I turned my attention to searching for more. I think before flood tide set me free I found over a dozen specimens of perfect beetles as well as a host of larvæ and pupæ. The latter I did not carry away with me.

When I got the beetles home I tried to kill them and this was a difficult task. From a good night's rest in a cyanide bottle they emerged well and hearty. During the forenoon a benzine bath seemed to do them good. So I boxed them up and went about my business. Some time after, it may have been days or weeks,—I cannot remember—I found two of them dead in the box. It must have been from weight of years for no other weight seemed to affect them. They would have been a fortune to a spiritualistic medium. Books, flatirons and bottles were daily passed around the table by them. A convivial caller who saw a beer bottle come jogging across the table towards him was inclined to think he "had 'em agin."

In conclusion I ought to tell what became of my queer specimens, but the truth is the best. I really can't remember; but I have no doubt there are plenty more where they came from, and I'll show you the place any time.

BOB.

Wood Boring Beetles.

BY L. E. HOOD.

A vast number of the Coleoptera are dependent, either in the Larval state or as perfect insects, upon vegetation for their existance, and

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*Probably a *Simulium* ED.

these constitute the principal injurious element of this order.

The Coleoptera could be classed according to their food habits as Predaceous, Scavengers, Parasitic and Herbivorous, the latter containing not only the true wood borers, but leaf beetles and chafers.

Of the leaf beetles the *Chrysomelidæ* contain the greatest number of species,and among them are some very injurious insects, such as the common potato beetle, *Doryphora 10-lineata* Say. the pretty asparagus beetle, *Crioceris asparagi* Linn. which was introduced a few years ago from Europe and has become of interest in regard to its steady spread over the Atlantic States.

The cucumber beetle, *Diabrotica vittata* Fabr. which is exceedingly injurious both in the larvæ and imago stages, not only to the cucumber but to other vegetables, especially the squash; and the interesting flea beetles.

Some Genera of the *Scarabœidæ* are Herbivorous and contain some noted species of chafers, the larvæ of these being injurious to the roots and stems of grass and plants; the common May beetle, *Phyllophaga fusca* (*Lachnosterna fusca*) being found on the foliage of most fruit and forest trees, and other species closely allied are also feeders upon the foliage of plants or trees, among them I will only note the following: *Macrodactylus subspinosus* Fabr. found on the wild rose and literally everywhere in June, the various species of *Anomala* are all chafers, also the six spotted grape vine beetle, *Pelidnota punctata* Linn. *Euryomia inda* Linn. and other Cetonians are among the foliage eaters.

The true wood borers are principally the *Buprestidæ*, *Cerambycidæ* and *Ptinidæ*, the latter family containing small sized beetles, some species boring into branches and tender shoots of both fruit and forest trees.

The *Buprestidæ* in the larval stage are very injurious to trees; the *Chrysobothris femorata* Fabr. being found in the apple and oak; *C. calcarata* in oak; *C. Harrissii* in pine, this latter beetle is of a beautiful metallic green color and is a fair representative of the genus; the typical genus *Buprestis* contains some of the most beautiful species of beetles. *Dicerca divaricata* Say. bores in the cherry and peach trees, the imago can be found in summer on the foliage of trees, especially in July on cherry (see O AND O, October, 1886.) *Dicerca lurida* Fabr. bores in the hickory, while another species infest the pine. *Chalcophora virginiensis* Drury is the common pine tree borer and is one of the largest of the American Buprestids, often measuring over an inch in length. *C. liberta* also bores in pine.

Of the species of *Agrilus A.*, *ruficollis* Fabr. infests the raspberry.

The *Cerambycidæ* are easily known by their long antennæ and are commonly termed the Longicornes or long horned wood borers and comprises some remarkable and often beautiful species. *Prionus laticollis* Drury is one of the largest species, often being one inch and a half long while the antennæ measure about an inch. I am not at all acquainted with the larvæ which are said to eat the roots of the grape and apple. I have found other wood borers around these roots but I have yet to discover a larva that will correspond with the description of this species.

The beautiful locust-tree borer, *Cyllene robiniæ* Forst. is found in the perfect state about August. The larvæ are very injurious to the locust tree, while the larvæ of *C. speciosus* Say. bore in the maple.

Of the species of the genus *Saperda*; *S. candida* Fab. bores in the apple tree and is one of the greatest enemies of this tree. *S. tridentata* Oliv. bores in the elm.

Elaphidionv illosum Fab. infest while larvæ, the twigs and limbs of the oak tree and have a curious habit of boring in the pith of a twig until it falls to the ground, where it finishes its transformations,emerging in the imago stage in early summer.

The species of *Scolytidæ* are also either wood borers or bark borers; some species being injurious to the pine and other forest trees. *Scolytus 4-spinosus* Say. burrow under the rough bark of the hickory tree forming curious tunnels and chambers. *Hylurgus terebrans* Oliv. a beetle considerable larger than the scolytus just mentioned bores in the pine, while other species of this genus infest the cedar.

The species of the vast family of weevils, *Rhyncophora* or *Curculionidæ* are herbivorous, the larvæ infesting either the seeds or fruit of trees, or as galls, or boring under the bark or in the buds of trees prove very destructive to vegetation. *Balaninus nasicus* Say. is the well known long nosed nut weevil, while other weevils infest nearly every fruit and tree of our orchards and forests. Among the most common, may be named the *Pissodes strobi* Peck., the pine weevil; the elm tree *Magdalis; Baridius trinotatus* Say., the potato stalk weevil. The apple weevil described by Say. under the name of *Anthonomus quadrigibbus*, a very small beetle to uphold so long a name.

S Birds

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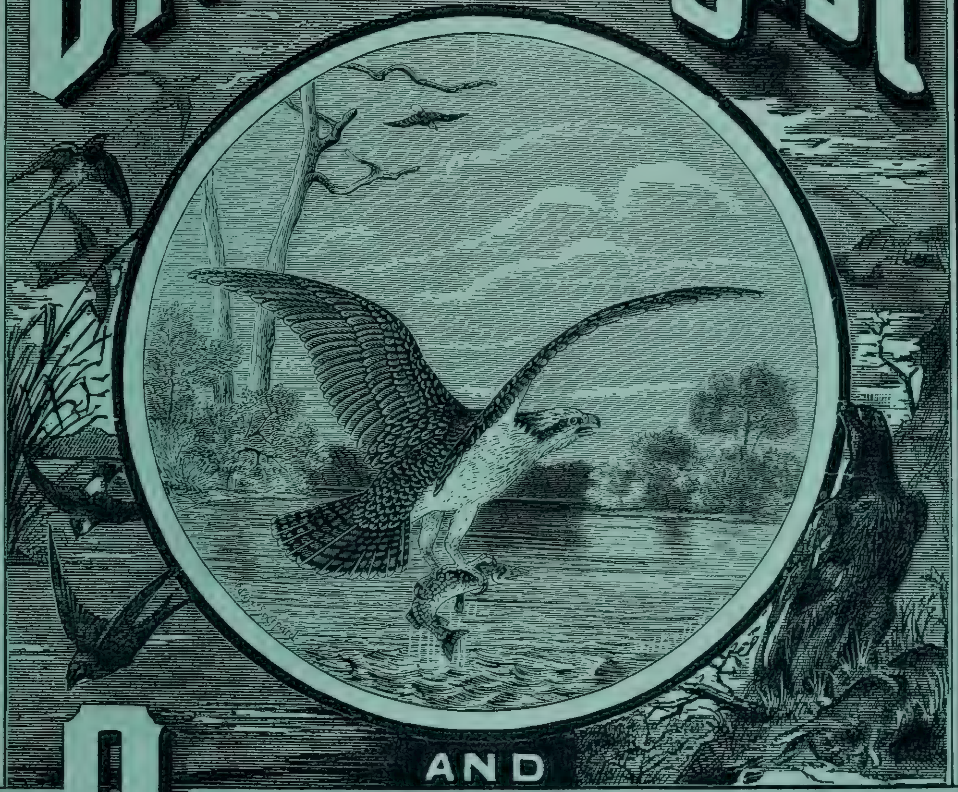

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An Ornithologist's Summer in Labrador.

BY M. ABBOTT FRAZAR.

(Continued from page 3.)

Larus glaucus, Glaucous Gull. Occasionally, up to the last of May, I would see one of this species, but saw none later than that. Doubt if it ever breeds where I was.

Larus marinus, Great Black-backed Gull. Quite common everywhere, but the least gregarious of any of the gulls; for I seldom found more than a half dozen pair breeding on the same island, and a small island of not over a couple of acres. would seldom have more than a couple of pairs on it. The nests were built of dry stalks of grasses; were very bulky and deeply hollowed; were also placed, as a rule, upon some high spot on the island, so the bird could have a clear view for some distance. I found no clutches of over three eggs, and after they have been robbed once or twice they are more apt to lay two than three. The eggs on an average, are considerably larger than a Herring Gull's, and the shell is coarser and lacks any gloss. The spots are also inclined to run much larger and fewer in number, and about five per cent of the eggs taken were of a pale blue ground color, with none, or a very few dark spots on them. As soon as the young are a few days old they leave the nest and secrete themselves among the rocks or paddle about among the islands, always under the watchful eye of their parents far over head. I quite often used to row up on to young birds some distance from the shore, when they would sink down into the water showing but very little of their heads, and try to get away, but if pursued they would come to the surface and put in the best they knew how. That was always the signal for the approach of the old birds, and so I had no difficulty in procuring what specimens I wished, although it is what might be considered a very shy bird. Another way I had of getting them was to shoot down a Herring Gull, which would generally bring them about. During the breeding season they feed very largely upon the eggs of other birds, and upon young Eider Ducks. They will take a Murre egg, grasp it in the centre with their bill, and without breaking the two ends apart, they will crush in the sides and secure the contents. They must do it skilfully, as I never saw any part of an egg spilt on the rocks, nor did I ever see a gull's plumage stained with it either. They catch young Eiders in this way; two or three gulls will hover over a brood in the water, which of course confuses the mother duck and scatters the brood in all directions. Then by following the ducklings after each dive they would soon tire them out, and a skilfully directed blow at the base of the skull, which seldom missed its aim, would in an instant finish the business, and before the unhappy duck would know which way to turn its brood would be one less. On several occasions I have seen the mother duck drawn several feet in the air, by clinging to the gull as it dove for its prey, and several times I have seen a venturesome "Black-back" get knocked over with a charge of shot, when he happened to get too interested in his pursuit and allow of my too close approach.

Their eggs are very nice eating, nearly as good as a Murre's and far superior to a hen's. Quite often they were served to me at meals, but it almost made my heart ache to break one, however, I could not say anything for fear of giving away their value. The young, just after having left the down, are delicious eating. But the old birds are the most rapacious things I ever saw. An incident which happened, just occurs to me. I was anxious to get some specimens of the Common Cormorant, quite a colony of which lived on some very high cliffs on the point of Cape Whittle, and as the cliffs were very high, and this species bred only along

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the top, I could not shoot them from a boat in the water below, and the only place one could land was in a small nook about a mile below the cliffs. So one day we landed there, taking a time when the tide was running very swiftly towards the place where we had left the boat, and hurrying over to the cliffs, we shot about twenty birds into the water in about as many minutes, and then hurried back to the boat, expecting the birds would be drifted about down to where she lay by the time we got there. The whole thing worked to a charm, except that we left the gulls out of our calculations, for of the fifteen Comorants we picked up, there was not one of them but what was so eaten by the gulls that I could do nothing with them. The next time I tried it, I stationed a man off the cliffs in a boat, and I had better luck.

Larus argentatus smithsonianus, American Herring Gull. The most common of all the gulls; breeding invariably in colonies, and as far as my experience went, upon the ground. But about Esquimaux Point they are said to breed in the trees as well as on the ground. I had expected to find this species very shy, but the birds of one large colony of fully a thousand pair, which I visited in Musquano bay, were quite the opposite. They flew about in utter fearlessness, many approaching as near as ten feet over my head, where they would remain motionless as though sustained by some invisible power, all the time eyeing my every movement.

It seems to make very little difference with them how often their nest is disturbed, for it is next to impossible to drive them from their chosen home.

Larus delawarensis, Ring-billed Gull. A few moderate sized colonies of this species were resident in the vicinity of Cape Whittle, but it is a hard bird to depend upon, as they keep shifting about, owing to their being disturbed so often. Their nests are like the other gulls, and the number of eggs laid never, as far as my experience went, reached beyond three.

Sterna tschegrava, Caspian Tern. This majestic Tern is but a sparing resident along the Labrador coast, as I met with but one colony, which was located about twenty miles to the westward of Cape Whittle, where I found a colony of some two hundred pair mixed with a larger settlement of Ring-billed, and a few Herring Gulls. Their nests were built upon the ground, and generally contained two eggs, never more.

Sterna paradisœa, Arctic Tern. Of the smaller Terns, I did not kill a bird while on the coast. There were a few colonies scattered about on the small grassy islands, in the vicinity of Cape Whittle, and although they were almost always in sight, still they could not be called abundant. All the birds that came near enough to admit of careful observation, proved to be of this species.

Sula bassana, Gannet. About forty miles to the westward of Esquimaux Point, is Mingan, where a small colony of Gannets have their nesting place, and from careful inquiry, I am positive that there are no other colonies, at least, as far as the Straits of Belle Isle. But after the breeding season, the birds were rather common all along the coast.

Phalacrocorax carbo, Common Cormorant. *Phalacrocorax dilophus*, Double-crested Cormorant. While sailing eastward from Esquimaux Point, and when about seventy-five miles distant from there, I met with my first colony of Cormorants, which proved to be a settlement of about twenty pair of Double-crested. Here, fully ten miles from shore, and on a small rock of less than a quarter of an acre in extent and which did not rise over ten feet out of water at high tide, they had their nests; which were placed promiscuously about on the bare rocks. It was on June 2nd that we met with them, and after some difficulty succeeded in making a landing, when we found the nests were constructed entirely of kelp and seaweed, freshly pulled from the bottom of the ocean. None of them held over four eggs and as they afterwards proved to be all fresh, it was undoubtedly a second laying, the first having fallen to the eggers.

At Cape Whittle the only other colony I met with was located, and here on cliffs fully one hundred and fifty or two hundred feet high, about two hundred pair had their nests. They were all built of freshly broken twigs which the birds got from a small pond a little way back from the cliffs, where by swimming around close to the shore the birds could break off the branches from the small bushes above and fly with them to their chosen homes. The Double-crested built all over the cliff wherever a resting place could be found, but the "Common" variety only nested close to the top. When I first visited the rookery on June 19th, many nests contained large young, which went to prove what the natives said, that they commenced to build long before the snows of winter had disappeared, and they told me that it was not a rare thing to see nests placed where they would undoubtedly be tumbled into the sea as soon as their treacherous foundations would finally give way before the summer heat.

The nests of the Common Comorant contained generally four or five eggs, but I was fortunate enough to take about five sets of six each. The eggs average considerably larger than those of the Double-crested, besides being more rounded or elliptical, while those of the latter species are quite pointed and never, as far as my experience went, reached beyond five in number.

Merganser serrator, Red-breasted Merganser. Common, but breeds only in fresh water on the mainland, and probably some distance from the coast. None of the natives I spoke to about it, ever knew of their nesting on the outer islands.

Anas obscura, Black Duck. Not common, but a few pair found breeding on the islands; the nests being generally placed upon the outreaching branches of stunted spruces, which seldom attain at highest, above four feet. One nest was fully two hundred yards from the sea, and another which contained nine eggs, was distant at least one hundred yards from the water. The natives say they return year after year to the same nest.

Anas carolinensis, Green-winged Teal. Early in September I saw two which an Indian had just killed from a bunch of six, in the vicinity of Esquimaux Point.

Clangula hyemalis, Old-squaw. Only a migrant, and I saw none after about June the 5th.

Histrionicus minutus, Harlequin Duck. A few immature birds with an occasional adult summer about Cape Whittle, where they can be found about the outer islands and most exposed ledges fishing in very deep water. Two specimens were brought me on July 5th. None breed.

Somateria mollissima, Eider. Probably a migrant, as one specimen taken on May the 18th, not far from Esquimaux Point, showed a very clear resemblance to this species.

Somateria dresseri, American Eider. About Esquimaux Point a few "Moyac," as the Indians call them, still struggle against hard fate in an honest endeavor to rear their young, but the gulls that fly and the gulls that walk are generally too much for the poor ducks, and the successful ones are those which go back from the shore and secrete their nests among the spruces in the centre of the islands. At Musquarro I really first met with them. We anchored there late in the afternoon, and as I was rather tired after being aboard for several days, I thought a run on land would be a pleasant relief. So I started in my small boat for a little island of not over two acres in extent, which lay just under our stern. The island, which was very steep and rounded, was covered with a short soft grass about six inches high, and as I approached the shore, first one head bobbed up and then another, until I was soon aware that I had fallen in with quite a colony.

The nests were scattered about everywhere, among the small rocks just above tide-water, and in the grass all over the island. They were always built of the soft, slate-colored down from the parents breast, which made a fitting receptacle for the beautiful greenish-yellow eggs, the handsomest of all the ducks. After landing on this island, it took me less than two hours to gather in some seventy odd sets.

A favorite place for an eider to build, is at the foot of some large rock, or in an angle formed by two rocks, where they are sheltered from the wind, and times without number, I would come suddenly upon birds in such positions; and once, in stepping over a rock, my foot came squarely down upon an Eider's back, and I doubt which was scared the most, the old duck or myself. Another time, I came upon a nest placed upon some high rocks, in such a way that as I approached from the only opening the bird was fairly penned, and after making one or two vain attempts to jump over the rocks, mother duck settled back and quacked for mercy. I held her some time and by scratching the top of her head I apparently succeeded in making her feel quite contented.

Of the large number of nests I examined, most of them contained four or five eggs. A large number held six, two seven; and one nest had eight. If not disturbed, the bird on leaving the nest draws the down over it, and so conceals the eggs. The male never sits, and leaves the female soon after the eggs are laid, and gathering into large flocks they wander about wherever their food is the most abundant. As soon as the young are hatched the mother leads them to the water, and as many as three or four broods combine together, serving as a natural protection against the rapacious Saddle-backs; but even this protection often proves insufficient, and many is the poor duckling which meets his fate in this way. By the time their feathers start they are old enough to be safe against the gulls, but then man comes along with his surer means of destruction and shoots them on all occasions, for they are certainly delicious eating.

Of all birds which I met on the Labrador coast, for none did I feel such a genuine sympathy as for the persecuted Moyac. A Murre faces extermination with a stupid ignorance which does not command respect, but an Eider is an intelligent bird and of such a quiet disposition, that it really seems as though their greatest failing was their seeming confidence in man. They are persecuted with relentless energy by both man and beast from the time they arrive up to the time they leave, and the countless hordes which once inhabited this coast are fast disappearing, and it will not be long before the Eider of Southern Labrador, like the Eider of Grand Manan will be but a memory of the past.

Oidemia americana, American Scoter. A few seen regularly about Cape Whittle, where they spend the summer. Though none appear to breed, those seen were mostly immature birds.

Oidemia fusca, Velvet Scoter. Rather more common than the preceeding. Seen under the same conditions.

Oidemia perspicillata, Surf Scoter. Quite common; the most of any of the Scoters, and summering about Cape Whittle, under the same conditions as its two relatives. They follow their food wherever it goes, and were rare or common accordingly. Once when the bait struck into Wolf Bay, the "Coots," Ducks and Eiders were there in thousands, but it lasted for only three days and when their food struck out they vanished with them.

Branta canadensis, Canada Goose. One or two pair were said to breed on a large island off Wolf Bay, called the "Beacon," but as there was a camp of "eggers" there I did not visit it.

Crymophilus fulicarius, Red Phalarope. A fine adult male, the only specimens observed I killed at Cape Whittle June 25th. It was swimming about in the water near the shore of an island, and although it observed my approach, it kept on feeding in utter disregard of danger.

Phalaropus cobatus, Northern Phalarope. Killed one at Exquimaux Point late in May. Also two at Musquano on June 5th. Saw no evidence of their breeding.

(To be concluded.)

Notes from Raleigh, N. C.

BY C. S. BRIMLEY.

Kentucky Warbler (*Oporornis formosa*). Have only taken three specimens of this species, all males, on May 13 and 27, 1885 and June 5, 1886. The only occasion on which this bird was observed, before this year were the days on which specimens were taken last year, and in each case only one bird was observed and that shot as soon as seen. This year, however, the species was *heard* nearly every time I explored the neighborhood of a small swamp on Walnut Creek, during the month of June; but though often heard, it was not often seen, but exhibited the "invisibility" which according to Dr. LeMoyne characterizes it in the mountains of Tennessee. The specimen taken had been pursued for nearly half an hour, when at last I perceived a bird hopping about on the ground by the side of a log and shot it on the chance of its being a Kentucky, and so I obtained the desired specimen. After this one was killed another male took his place and I used to hear him singing whenever I approached his bailiwick, but he was even more invisible than his predecessor and I failed to secure him. I have but little doubt that this species nested somewhere near the swamp referred to, but the mosquitoes effectually cured me of attempting to find a nest.

Mountain Solitary Vireo (*Vireo alticola*). We have taken two specimens of this variety of the Solitary Vireo this fall, one a female on Oct. 13, and a male on Nov 3, both were identified as above by Mr. William Brewster of Cambridge, Mass. The prevailing characteristic was that the plumbeous of the crown extended over the remainder of the upper parts to a considerable extent. I am tolerably sure that I have taken similar specimens both in spring and fall in former years, but cannot be quite certain as I have no skins to refer to.

Golden-winged Warbler (*Helminthophaga chrysoptera*), a male of this species, the first I had ever seen; was taken by us on Aug 26, of this year.

Baltimore Oriole (*Icterus galbula*). We took two females of this species this fall, one each on Sep. 2 and 17, which is its first occurrence in this locality to our knowledge. After taking the first specimen we kept a sharp lookout for males but did not observe any.

We have also taken the following rare birds this year: Short-eared Owl (Nov. 11); Pigeon Hawk (Oct. 1); Pileated Woodpecker (Oct. 4); the two first of which are first occurrences for this locality. Purple Finches have been toleraaly common throughout this month (November), and Pine Finches have been observed on about half a dozen occasions; the last Blue-headed Vireo was taken Nov. 15, but disappointed us by not belonging to variety *alticola*. A Field Sparrow (*Spizella pusilla*) was taken on Nov. 3 which sported a white tail. Red-bellied Nuthatches have been taken on Sep. 13, Oct. 29 and 30, and Nov. 5; whilst a Shrike, which we think, more of a Loggerhead than a White rump, was taken on Nov. 26, after defying all our efforts for three months. Shrikes do not appear to be quite as scarce as last year, but they are very shy and exceedingly hard to approach, though I never used to find any difficulty in that way in 1883 and 1884, in both of which years they were tolerably common.

Loon Lake.

BY CHAS. S. WHITEHEAD, Esq.

"Thousands o'Loons!" "Whar's thousands o'Loons?" "Up at Loon Lake, Tim Briggs was up thare last week and sez the air is jist black with em' an they're nestin' on the island so yer' can't see it for eggs." "Oh git out." "D——d if 'taint so!" Thus spake one after the other of a circle of loiterers around the village store in Spencer as they in succession endeavored to spit into the broken door of the stove, and their endeavors were crowned with that success that arises from nightly practise. I, a loiterer in the town, heard the tale—a tale that was current througout all Iowa and the next morning, taking a team of prairie-bred horses and a genial companion, and inquiring the route, we spun away over the grassy trail that led to Okobojie, and thence to Spirit Lake, and thence north toward the Minnesota State line and the lake renowned over all Iowa as being the breeding place of the Loons.

We passed beautiful lake Okobojie, and the Little Okobojie, and the oak bluff that divides it from Spirit lake—then along the narrow sandy beach, half submerged between Spirit lake and the lesser Spirit lakes on the west, and on we sped in the dewy freshness of early morning. A stop at Arnold's fishing house for breakfast and then the road took the open prairie and at noon we looked down on Loon lake, a sheet of water two miles broad, partly surrounded by woods, and containing one rough island covered with low timber.

"Friend, is this Loon lake?" said I to a native riding a bare-back horse.

"Ya'as" he replied reining in and swinging himself half off the horse in order to face us.

"Are there any Loons here now?" "Ya'as, some show of em', not nigh as much as last year they pester 'em so a shootin' at 'em."

"Are there any nests here now?"

"Ya'as, there's a grist of em in the trees on the island yender."

I drove on, thinking of Loon's nests *in trees* and a shade of doubt crept into my mind.

Another native told me where there was a canoe hid in the bushes, and soon our horses were hitched to a tree, and two happy inquisititive souls might have been seen paddling a leaky boat toward the island.

Just then we caught sight of two cormorants flying high in air going northward. They saw us and shunning the boat flew to the upper end of the lake. Another shade of doubt darkened my mind. As we reached the island we saw a long line of cormorants sitting on the rocky point like penguins, swimming off as we approached: finally away vanished the Loon legend, as a cloud of roving cormorants arose from the island, croaking their discontent at our visit.

We found the island covered with cormorant nests, and the remains of nests, rudely constructed of small sticks, and laid on the crotches of low spreading trees that covered most of the island, some trees contained several nests, and some nests were placed on the edge of the cliff, and other projecting places. All the nests were within easy reach of the hand and most of them empty, the young being hatched and gone to sea.

We found some eggs of a light pale blue color, and there seemed to be from two to four eggs in a nest. The young in nests were two in number and were all mouths and eyes, and were being fed by their parents with fish. The fish of this lake could not maintain so large a breeding, and we saw the parent birds high in the air going and coming to neighboring lakes.

Some of the young, much lighter in color than their metallic black coated mothers were being conveyed out into the open waters, and had already learned to dive before they apparently could fly. The island was a high gravel bluff but we found a little mossy bog in the centre, from which water sometimes flowed.

We lay down together on the bluff, watching the blue sky and the complaining cormorants for an hour and then pulled away having learned how happy two can be where nature lies bare around them, and that every one is not a Loon that country folks call so.

Kalamazoo County, (Mich.) Notes.

BY MORRIS GIBBS.

The season is evidently to be a cold one from the reports we hear regarding the appearance of northern birds in various parts of the state, Snowy owls, White-winged and American cross-bills, Pine Linnets and several other species only found at odd times during the winter or late autumn or early spring months. On Dec., 10th I observed the Red Cross-bill for the first time during the season. On the 22nd of the month a fine female of the Rough-legged Hawk was brought to me, killed within the city limits. These notes point to a severe season and yet, as evidence entirely contrary to the theory that northern forms only appear in numbers during or at the approach of severe weather and that migrants through our country hasten on their southern trip at a correspondingly early date, the taking of a female Sharp-shinned Hawk in the immature plumage on Dec., 3, is contradictory in the extreme.

Other small hawks, probably of this species have been seen around the city streets attempting to catch (let us hope with success) English Sparrows as this one was also engaged, and at even a later date. Now this hawk is rarely seen here after Oct., 20, and the date of Dec., 3, and later is surprising, and certainly unusual. Here we have owls and hawks of northern haunts, the Snowy Owl and Rough-legged Hawk never breeding within the limits of Michigan I believe, and the Sharp-shinned Hawk, a species which summer sees to our north, but winter to the south, and found together within the boundaries of a populous city.

This is a strange condition. Must we consider it a mere coincidence or of deeper moment. The Rough-legged had recently devoured a Red Squirrel *S. hudsonicus* and the Sharp-shinned contained in its crop a small meadow mouse of the *genus arvicola* I should judge. The cold weather would not hinder the Sharp-shin from leaving for his southern home, neither is the weather cold enough yet to force the northern forms to our latitude, therefore it must of necessity be the result of either abundance of food in this locality, which I can in no way account for, or else it is merely an accident. Can we have this kind of accidents among our wise self-guided birds.

Among other birds we have the hardy little Black-capped Titmouse, Downy Woodpecker, White-bellied Nuthatch, but the little Brown Creeper has not put in an appearance yet. Why have we not seen him if the weather is so severe when I have repeatedly observed the apparently delicate creation when the mercury indicated 20° Fahrenheit.

Again a peculiarity which many of you must have speculated upon. The dress and plumage of a bird are compared to the individual ability to withstand the severity of the weather. The Rough-legged Hawk and Snowy Owl have their legs covered entirely with thick feathers, the Snowy Owl even having a complete covering for the feet, giving it the the appearance of wearing heavy and disarranged moccasins, while the delicate Chickadee and White-bellied Nuthatch apparently withstand the cold equally well with no protection for the legs and slender toes. No one has ever discovered that these delicate and tiny birds die of the cold either.

The contrast is still further interesting when we consider that the owls and hawks live on meat entirely which they devour directly on being killed and often when quite warm; a food acknowledged to be most invigorating to creatures inhabiting cold countries. Again the Chickadee and Nuthatch feed largely on small seeds as well as minute chrysalide or pupæ. The Cross-bill feeds entirely almost on seeds,and yet withstands the cold as well as the owl or hawk.

Oh strange result of investigation: contrary to all the views of scientists is this! Who can explain it? How an ounce of feathers and flesh thrives as well in mid-winter as a large hawk or owl.

Nesting of the Black-throated Green Warbler.

BY JOHN N. CLARK, SAYBROOK, CONN.

On the 23d of May, 1884, I visited a swamp in the woodlands of Saybrook, Conn., to investigate a spot therein, the chief attraction of which was that among its tangled mazes was an old Maple tree which had been blown over in some violent gale of the past, upturning from the mud of the swamp a large mass of its roots and adhering debris. This tangled mass of roots and mud had been for several years the headquarters of a pair of Large-billed Water Thrushes (*Siurus motacilla*) and from the nest deftly hidden therein I had secured a nice set of these eggs annually for four years. To this spot I was carefully working my way, through the thickets, when my attention was suddenly attracted by a small bird quite near me, busily skipping from one bush to another; and as I immediately observed, gathering the swamp spiders' webs in its beak. I saw at once also that it was the Black-throated Green Warbler (*Dendrœca virens*) a female, and I was greatly interested, as a set of eggs of that species would be new to my collection.

Securing a good site for observation I diligently watched her accumulate nesting material, and with great vigilance scanned every movement. Another interested observer also put in his appearance—the male warbler. Perched on a spray near at hand he chanted blithely his little song of encouragement to his laboring wife, but I did not see him soil his feathers by the slightest assistance in gathering the nesting material. Soon rising from the thicket, the female took flight for her nesting place, and here a singular episode took place. The male bird immediately left his perch in pursuit, and seizing the female by the tip of the tail, accompanied her flight in that order quite to the site of the nest, when he left for an adjacent perch. It was some ten rods away but this strange method of flight enabled me to observe their course and fix the location, to which I immediately hastened. Concealed behind an adjacent tree I waited further revelations. After a few moments the female started again for the swamp, followed immediately and attended by her male, with his beak evidently clinging to the tip of her tail again. I remained on the spot some time watching them while they made several trips to the swamp—the male invariably escorting her back and forth in the same singular manner. The nesting site was in what is called here Yellow Birch, a species affecting swampy places. It was quite a tall tree without a branch to the nest, which was about thirty feet from the ground, in the crotch formed at the base of the first limb. Several twigs started from the same spot and the foliage on them completely concealed the nest from view either above or below. I never saw a nest so perfectly concealed from sight as was this.

I fixed upon June 2nd as about the right time for a visit to the nest, and at that time climbed up to it. Numerous excresences on the various sides of the tree natural with the species, combined with the enthusiasm, made the ascent an easy one—even if I did puff and sweat a little when I got there. The bird glided quietly away long before I reached the nest, evidently trusting entirely to its concealment for its safety, nor did I see or hear one note from either bird while I was at the nest. Very deftly hidden it was.

The neat little nest is now before me. Its outer materials are chiefly fine strips of bark, such as might be gathered from the stems of dry plants, a few of Cedar, and a few of the fine outside bark of the White Birch; and a few very fine black roots. It is neatly and abundantly lined with horse-hair and with some very fine grape stems. I have been wondering where the bird picked up all the horse-hair. The outside diameter of the nest was about three inches, inside about one and three-fourths inches, with a depth of about one and a half inches. Five eggs was the complement found therein, and they admirably fill the place in my cabinet so long vacant. The ground color of these eggs is white, but without the glossy surface usual in the Maryland Yellow-throats, and in fact compared with this latter species there is readily perceived a tint of grayish, though only of the faintest shadow appreciable. The markings, which are abundant, toward the larger end form wreaths near the widest diameter; and are chiefly of the lavender and purple tints, with few or none of the lighter reddish colors common with many of the Warblers. These markings are bold and sharp, forming at times coarse zig-zag lines and heavy blotches. I notice one at least an eighth inch across either way. Mixed with these are some of less size down to the most minute. The form of the eggs is as near the regulation "ovoidal" in pattern as anything that I can imagine, being neither excessively elongated nor excessively blunted at either end and the five specimens measure about as follows (in hundredths of an inch) viz., .64x48; .63 x49; .60x58; .56x47; .64x48.

Since writing the foregoing I have found another nest of the species, and the site was so different from the former that I am constrained to add an account of it. There were young in the nest, and I found it by watching the old bird returning to it with food. This site was in a small Red Cedar (*Juniperus virgininanus*) about seven or eight feet high, and the nest was in the densest part about five feet up. The materials and form were similar to the former nest The tree was one of a group of half a dozen growing in an open glade with large trees a few rods away.

THE
ORNITHOLOGIST
AND
OÖLOGIST.
A MONTHLY MAGAZINE OF
NATURAL HISTORY,
ESPECIALLY DEVOTED TO THE STUDY OF
BIRDS,
THEIR NESTS AND EGGS.
DESIGNED AS A MEANS FOR THE INTERCHANGE OF NOTES AND OBSERVATIONS ON BIRD AND INSECT LIFE.

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Editorial.

During the issue of Vol. XI the Ornithologist and Oologist has been outspoken in all questions, and we may have been rather aggressive on some points of discussion, but in no instance have we knowingly accused anyone unjustly, and good evidence has accompanied all statements. We had laid our course for the coming year, without counting on continuing the arguments of the past volume. However, we insert a communication from a prominent member of the A. O. U. for the consideration of our readers. We do not desire undue license for anyone, neither do we consider the A. O. U. as actively opposed to outsiders, but certain effects have been produced by that body which may have gone farther than they were intended.

The scientific Ornithologists of the A. O. U. very frankly tell us that the laws which they enforce, will apply to, and restrict themselves, as well as the average student. Such explanations seem at first glance to be perfectly right and plausable, and we have no doubt that it was intended to be as they assert. Unfortunately it is not. We even doubt if the "prominent members" entertain an idea of being molested by a law which they commend and profess to share in restrictions. The fault may not lie entirely with the scientist. They are recognized, and justly, as entitled to receive a permit from the law makers, but they should not forget their fellows whose reputation does not at present equal their own, but whose moral right to collect is as great. Then when consistent in actions with their statements on paper, we shall find a harmonious feeling and not the *caste* distinction peculiar to other countries. Here in Massachusetts we have just had an example of what we complain, and the four gentlemen who received permits should insist upon others receiving a like favor, of course using judgment in selections. It would be for their own permanent benefit to consider the matter. Personally, we have never received, with one exception, anything but courteous treatment and count as friends many of the members of the A. O. U. and feel indebted for kind offers to the correspondent in this issue.

* * *

Notes on the Nesting of Some of the Rarer Birds of Chester County, Pa.

BY THOMAS H. JACKSON, WEST CHESTER, PA.

During the latter part of May, 1886, while exploring an extensive swamp within a few miles of West Chester, my attention was attracted by a strange, unfamiliar bird note coming from a clump of Calamus that grew in about two feet of water. Pausing a moment to listen for the song again, the bird flew from its hiding place to a tree near by, uttering at the same time its harsh, rattling song.

In it I recognized the Long-billed Marsh Wren (*Telmatodytes palustris*) a species which though quite common in the adjoining County of Delaware, has never before been seen, or its nest found within our limits.

A further search revealed a number of finished, though unoccupied nests, located in clusters in various parts of the swamp.

At this time there were probably eight or ten nests in different stages of composition, but none of them contained eggs. About three weeks later, on the 12th of June, in company with a friend I again visited the locality. The birds were still there; one of them, probably the male, singing constantly, and flying restlessly from one spot to another. After searching the whole ground over, and examining twenty or more nests, we at last came upon the right one in a bunch of tall Calamus, containing six eggs. Five of these were well advanced; the sixth perfectly fresh.

It is possible that there might have been two or more pairs of these birds in the swamp, as it seems almost incredible that a single pair of them could construct so many nests; but I could not find any more birds.

This set of eggs was a typical one of the Long-billed Marsh Wren, though probably somewhat darker than the average. The nest was composed mainly of coarse blades of grass (tussock) woven in with the leaves of the Calamus, and lined with pieces of dead leaves, a few feathers and other soft material. It hung about eighteen inches above the water, and was by no means a conspicuous object.

Black and White Creeper (*Mniotilta varia.*) Another species that our Chester County lists have correctly recognized as a common migrant but never as a summer resident, is the Black and White Creeper. Recently however I had information that a nest and eggs of this species had been taken in our County, and upon investigation learned that Mr. W. S. Everett, of Willistown Township, was the fortunate discoverer of this the first set of eggs ever taken here.

Mr. Everett, though quite a young ornithologist, made his find doubly sure, by securing the female, and carefully preserving the nest—all of which he has kindly loaned to me, together with complete data.

The eggs, four in number, have a ground color of pure white, but are so thickly covered with rich brown markings, mingled at the greater end with blotches of a dark lilac hue, as to almost hide the white, and to give them a strong resemblance to a lightly marked set of the Prothonotory warbler (*Protonotaria citrea.*) They differ however in not having the bright, glossy surface of the eggs of that species. The measurements of the four eggs are .68x.52; .68x.53; .70x.53; and .67x.53.

The nest was placed at the foot of a dead stump, sheltered by protecting nooks, though open above, and without cover. It was slightly imbedded in the ground, and its base was composed of dry leaves.

The entire outside is constructed of long strips of grape-vine bark, wound around it. The inside lining is of horse hair, and hog bristles. The cup of the nest is quite large for the bird.

The location of the nest was on a hillside covered with a small growth of Chestnut and Spanish oak.

More recently I have had additional evidence that the Black and White Creeper is a regular though rare breeder here.

On the 6th of June, of last year, while exploring some of the North Valley hills in company with two of my friends, a nest containing five young, about one week old, was found by one of the gentlemen with me. It was similar in every respect of location and construction to the one taken by Mr. Everett. The female was around feeding the young while we watched her near by, showing but little alarm at our presence. Later in the day we saw another pair feeding a brood of young that were just able to fly from bush to bush.

It would seem that they breed earlier than most of our Warblers. The eggs of these two pairs must have been laid by the middle of May.

Virginia Rail. (*Rallus Virginianus*)—This bird has heretofore been considered a very rare summer resident in Chester County.

This season a number of nests have been found, and I am inclined to think that its alleged rarity has been due more to a lack of thorough search for it in proper localities, than to any great scarcity of the species. The nests are extremely difficult to find, placed as they generally are in the very midst of a swamp, concealed entirely by tussocks and reeds. The female rarely remains on until the nest is reached. The nest is generally a bunch of dried leaves of the reed of tussock grass—sometimes being so flat as to scarcely keep the eggs from rolling out. Other nests are much hollower and evince a greater degree of skill in construction.

A set of nine eggs taken by the writer on the second day of June, 1886, average in size 1.25x .63. They are of dull white, sparingly spotted with a rich brown, heaviest at the large end. A set of eleven eggs was also found in the locality on the same date.

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Senor Juan Renardo is now exploring the country contigent to the Amazon in Brazil, where he will be joined by Dr. Northrup in early Spring. Both of these gentlemen are collecting for Mr. F. H. Carpenter.

Nesting of the Blue-headed Vireo.

BY C. M. JONES, EASTFORD, CONN.

These vireos, *Vireo solitaris*, are common Spring migrants in the North Eastern part of Connecticut. Not so numerous in the Fall, and are rare as Summer residents. During the present season of 1886 I have become more familiar with their nesting habits than ever before.

The first nest which I ever saw, I discovered quite accidentally, by seeing the parent bird feeding her young. This was on the last day of May, 1880. The nest contained one addled egg, and four young birds so large that they completely filled the nest. I did not see another nest until the sixth of June, 1885. This, like the preceding one, was in a Laurel bush, and about eight feet from the ground. The male bird was on the nest, and a brave little fellow he was. I jarred the bush quite violently several times, but he refused to leave. I then picked up a short piece of a tree top, to which the branches were attached, and stood it against the Laurel, forming a sort of rude ladder up which I climbed. But in spite of all the shaking which this caused, the bird stuck to his post, and I actually took hold of his bill with my thumb and fingers and tipped him off the nest. On looking into the nest I found it contained two eggs of the Vireo and one of the Cow Bunting. They were nearly ready to hatch, as their dark color plainly indicated.

On May 14th, 1886, I discovered one of these birds just beginning to build a nest, in a Laurel, and about seven feet from the ground. On the 27th it contained four eggs, and incubation had commenced. The same day I found another nest nearly finished. This was also in a Laurel. The birds were near by, and the male was singing loudly, but I think they saw me examining the nest, for they did no more to it, though I heard the male singing there for several days after.

On the 28th of May I found another nest containing three eggs, with incubation advanced four or five days. It was about five feet from the ground, and suspended near the end of a long, horizontal branch of a Hemlock tree. I did not notice it until the bird flew off, though I was not a yard from it. The moment she left the nest she became very demonstrative, fluttering close up to me, and uttering loud cries; in this respect behaving quite differently from the other bird, doubtless owing to the fact that incubation was more advanced.

Again, on the 10th of June, I found still another nest from which the young had already flown.

From this somewhat brief experience with these birds, I conclude that they habitually nest quite early, sometimes having the young hatched before the Red-eyed Vireos begin to build. The nests, as compared with those of the Red-eyed Vireo, appear rather more bulky, having thicker walls. This is especially the case with the one which I took on the 28th of May, it being heavily lined on the outside with some wooly substance, pieces of lichen and strips of thin white bark which I think were taken from the White Birch. The eggs from this nest are somewhat smaller than those taken before; are not so clear white, but with a somewhat rosy flush. The spots are much larger and the eggs taper less toward the small end.

In The Tupelo Swamp.

BY WALTER HOXIE, FROGMORE, S. C.

It was on our first real scorching hot day, the fourteenth day of May, 1885,—that I penetrated to the depths of the Tupelo Swamp away back in the middle of St. Helena. I had often dabbled around the outside of the swamp before, but had never ventured so far within its treacherous depths. But on that day I was in its heart, and was rewarded for my trouble at every step. How well I remember that gloomy little corner where the remnants of an old live oak stretched out its scraggy, moss-hung limbs over a pool of foul smelling, inky water, surrounded by towering flags!

It was a dim twilight in there even at noonday, and very hot, steaming with vapor like a Turkish bath. I sat literally as still as a statue, and bore all the discomforts with patience, for I wanted to know exactly who were the owners of the five herons' nests on the limbs of that old tree. Before I had begun to grow impatient a female Green Heron (*Butorides virescens*) flew up and settled upon one of the nests. Her self-satisfied "*skeow, skeow*," seemed to reassure a beautiful Snowy Heron (*Garzetta candidissima*) that was circling widely overhead, for after a few more turns she pitched down to a low willow tree. Here, after a great deal of croaking and balancing about, she was joined by her mate, who came down with a magnificent arrowy swoop; and by fits and starts, and with apparently many misgivings, as is the way of this most beautiful and most timid of our herons, the pair at last took possession of their domicile.

Meanwhile a third nest had been occupied by a Louisiana Heron (*Hydranassa tricolor ludoviciana.*) These birds approach you so quietly, and their neutral tints are so in harmony with the dimly lighted surroundings, that they are by far the most difficult to detect in approaching and leaving their nest, of all our herons.

Not so the next comer, the Black-crowned Night Heron (*Nyctiardea grisea nævia.*) They make themselves as conspicuous as possible, both by voice and mien, and the clumsy way in which this one seemed to stumble about the rude scaffold which served for a nest, just over my head, made me fear that the eggs would be broken before I could save them.

The fifth nest yet remained unoccupied, and, just as I was growing tired of my vigil, a pair of Little Blue Herons (*Florida cærulea*) came and took possession; the female in that rare and peculiar plumage—pied and streaked with blue and white.

In the tragedy that followed, she and the Louisiana Heron were the victims, and, on wading to the other side of the pool to pick up the latter, I found a nest of the Least Bittern (*Ardetta exilis*) with eggs, so that within the space of a few feet here were six species of herons nesting! All the nests contained full sets of eggs, and all were fully identified.

Field Notes on Some Birds of Colorado.

BY CHARLES F. MORRISON, FORT LEWIS, COL.

American Ouzel (*Cinclus americanus.*) An abundant bird on all the mountain streams, prefering places in the mountains where the water rushes through rocky canons, seldom in smooth water, the wildest localities are their favorite resorts and there it breeds, and lives both summer and winter, no weather is to severe for it and its pleasant notes are heard above the roar and din of the mountain torrent and the rush of the gale or the howl of the winters storm cannot drown its voice, for this is the time it is happiest. Often when camped in the mountains has it been my only companion and now I cannot take its life without a pang of remorse, I have watched them for hours when no living person was within miles and some of my happiest hours have been spent in their company. It is a pretty sight to see them feeding, now alighting on some half submerged rock it jerks its tail up and down much like the wren, then turning about a few times, then dives into the white water only to appear a moment later some yards away, to return to the same or to some more convenient rock to repeat its movements, relieving the monotony by now and then bursting into song, (for this bird does sing and it is a poor observer that has not heard its song, it does not wait for the breeding season but sings all through the year, the rougher the louder its song,) now it wades into the water and when at a convenient depth it stands beating the water with its wings, throwing the spray over itself and for some distance about. Much has been written about this beautiful bird, for no one sees it but admires it, and I advise all to read John Muir's "The Humming Bird of the California Falls," it is interesting and very pleasantly written. Eggs are pure white, deposited in a dome-shaped nest which is a mass of green. If not placed where the spray will keep it moist, the bird will visit the water and flying to the nest, alight on it and shower the spray over it in little showers, thereby keeping it green, and the material of which it is made, constantly growing.

Sharp-shinned Hawk. (*Accipiter fuscus,*) Have observed this bird but once, took a set of three eggs on June 22nd, 1886, eggs deposited in a dilapidated Magpies nest, the arched roof of which had fallen upon the main nest, forming a hollow which had been lined with a few feathers upon some dead leaves which had partially filled it the fall before. I had no idea of finding eggs in this nest but was investigating the various old nests in the vicinity, was therefore surprised to see three eggs in this nest, I waited an hour to see the bird but none appearing, I was going home much disappointed at being obliged to leave such a set of eggs where I found them, but upon passing through a clump of bushes not ten yards from the nest there perched Mrs. Hawk, where she had evidently been watching all my movements, although I could not see her, I went back to the nest and this time made up my mind to see her on the nest before securing her, thereby being positively sure of the identification, I had not long to wait for she was getting uneasy now and she soon settled on the eggs; it was high time for I was nearly covered with the bites of Colorado mosquitoes, and my patience nearly exhausted, but I was well repaid in the possession of a female Sharp-shinned Hawk and her three eggs. Nest twelve feet from the ground. Eggs, ground-color a purplish-white or perhaps more properly speaking white with a purplish tint, heavily blotched with numerous shades of brown, forming a ring about the large end of one, entirely covering the same end of another, and the small end of the third, 1.49x1.18—1.48x 1.19; 1.46x1.51; a fine Hawk and a handsome set of eggs.

Black-breasted Woodpecker. (*Sphyrapicus thyroideus.*) Secured a female, do not think it common, have not seen a male, general plumage black and dull-gray, barred, belly yellow, rump white, head brown, tail with the middle feathers white-barred, outer web of first pair white, three large oval white spots on inner web, rest of tail black, Length 9⅜, wing 5 6-10, tail 3 3-10, tarsi 6-10, bill 9-10.

Pygmy Nuthatch, (*Sitta pymæa.*) Found a flock of at least fifty feeding in the pines, in a gulch three miles south-west of Ft. Lewis, in company with a troop of Titmice and a few woodpeckers; secured two specimens. In their actions these birds resemble the woodpeckers, hanging in every conceivable position upon the trunk and limbs of the pines, peering into every chink and cranny for its food, and will feed within a few feet of a person without an atom of fear, uttering a short sharp note which is quite loud and issued from the throats of the entire flock if frightened by the report of a gun. They then move off to a short distance and soon resume their former placidity. Crown olive-brown, back olive, an obscure nuchal spot on nape, white, in one specimen it was quite distinct. Tail black, middle feathers white tipped with light olive, 1st and 2nd pair with white spot near tip, under parts a dirty white, upper mandible black, under mandible horn colored at base, feet black. Bill .45—tail rather more than 1.25, tarsi .60, hind toe .40, wing 2.60—total length a trifle less than 4.

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Mr. F. H. Carpenter is completing arrangements for an extended exploration in the Dead river region of Maine, which has been visited by him on several former occasions. He will be accompanied by Messrs. F. W. and C. H. Andros of Taunton Mass., gentlemen of considerable experience in arduous field collecting. With such additional assistance, he expects to complete his unfinished work among the birds of the region.

Dr. Arthur LeMoyne will soon begin his self-imposed task of searching amongst the swamps of Louisiana and Georgia for the Bachmans Warbler. While wishing him the best of success we cannot anticipate very great results at present. The spring migration may bring him his desired species.

ENTOMOLOGY.

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This month we present our readers with the first of a series of papers, on "Collecting on the Amazon," by one who has been there, collecting and studying the insect fauna of that beautiful country. They will prove both interesting and instructive.

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Sphingidæ of New England.

BY WRIGHT & BATES.

SPHINX LUSCITIOSA, CLEM.

Head gray, palpe brownish, thorax, black on top, gray on sides and beneath, with a brownins on either side. The tufts at the base of the thorax are bluish black, sprinkled with gray.

Abdomen dull ochre yellow, with a slender black dorsal line, and on either side a row of black spots, which combine into a band at the anal extremity.

Under side grayish.

Anteriors light brown; a slender black line extends from the base, along the median vein, to the 3d median veinlet, where it forks, extending, on either only a short distance further: another occupies the space between this line and the sub-median vein; two V shaped marks lie between the 1st and the 2nd and 3d median veinlets, and another black line crosses the disc; discal spot small and white; a slender line recurred upon itself, with the apex toward the margin, occupies the space between the 2nd and 3d sub-costal veinlets, followed by a black line in the next space and that by a short oblique odical streak; the centres of the spaces between all the veinlets have a grayish shade; the marginal space is occupied by a dark brown or blackish band, darkest and broadest toward the anal angle and preceded by a wavy brown line which extends across the veinlets.

Fringes black spotted with white.

Posteriors ochre yellow, broadly margined with black, and with an almost absolute central band. Fringes yellow, becoming white at the anal angle.

Underside ochre yellow, with dark brown margins.

An Entomological Tour in the White Mts.

BY L. E. HOOD.

Three years ago last summer I packed up my net and cyanide bottle and started for a vacation trip in the White Mts., collecting nothing but Coleoptera and Diptera during the two weeks tramp among the valleys and mountains south of Mt. Washington.

My first stopping place was No. Conway from there I went to Glen Station, Upper Bartlett, Bemis, etc., stopping on my way back at Glen Station to take a flying trip to Glen House and the Mountains in that vicinity. During the trip I collected upward of one hundred species of Diptera and about sixty of Beetles, and was surprised to note the close relationship of the Massachusetts fauna to that of the foothills of the White Mts. Nearly every species found could have been collected in Newton or Malden yet, I found some good species and was on the whole satisfied with my trip.

During my first day at North Conway I was walking near the famous White Horse Ledge, when I noticed a fine specimen of Bombylius flying before me. Having my net ready I carefully stepped toward it and was on the point of sweeping my net when a Tiger Beetle flew up and settled scarcely a foot from where the fly was resting, both were fine species but as the tiger was of a species new to me, I let the Diptera escape and soon had my first *Cirindela Longilabris* Say in my cyanide bottle. This is the only specimen I have ever found and that day I was a happy man.

During my stay in the Mountains I only saw three other species of *Cirindela*, the common *C. Vulgaris* Say, a single *C. punctulata* Oliv. and *C. purpurea* Oliv. which was quite common at North Conway and Upper Bartlett.

Some fine Scarabæidæ found their way into my collection, also some rare weevils, but I was quite surprised to find the *Carabidæ* very poorly represented—but this may have been due to the lateness of the season, for in general I think the spring the best time for this family.

The *Buprestidæ* were also rare though I managed to catch a few pine and oak borers, among them the pretty *Chrysobothris Harrisii* Hentz, in a pine grove near Mt. Pickering.

While at North Conway I met with an amusing incident worth mentioning. I started on a walk toward Mt. Kearsarge but soon turned toward my right and as I was crossing an open place near a foot-path leading to Lookout point, I stopped to rest and enjoy the lovely scene before me, there below was the town nestling so prettily among the tree covered hills with the White Horse Ledge rising like a sentinel beyond, while around were the distant mountain peaks, forming a grand frame for the beautiful picture. Before long I turned my attention to the insects around me, and the struggles of a number of ants trying to drag a disabled cricket so interested me, I did not notice a small party of people coming up the hill. Just as I was crawling on my hands and knees to keep up with the ants, a fair looking *Agrilus* settled on a stone not far from the end of my nose; at once ants, wearyness of body and all were forgotten, and the sole object of my life was to see that *Buprestidæ* in my collection. Backing to where my net lay, I surged forward and missed my beetle, who flew rapidly away toward the town, with an eager and excited man in full chase, but woe to him who runs in the mountains with his eyes on a flying bug. I caught my foot in a bramble and pitched headlong down the declivity, landing directly at the feet of a lady and two children, who no doubt took me for a madman, for with cries of evident alarm they in their turn started on a run and as I sat up and looked for my hat I heard the lady cry out "Hurry Bessie, Hurry he's coming."

I picked myself up and started towards my hotel, a madder if not a wiser man, but lo that same lady was a guest in that hotel, and I began to see the people eye me with an interest not at all agreeable, and becoming thoroughly disgusted I took the first train for Glen Station.

I only stayed here one day and after gathering in a few water beetles and some five or six species of *Chrysomelidæ*, I journeyed on to Upper Bartlett. On my first day at the latter place I killed several snakes, hoping to find some Silphidæ under them next day, but only found some Trox and a few Staphylniidæ. Here as at North Conway I found the Chrysomelidæ well represented, and collected several specimens of Lady Beetles, among them a fine *Hippodamia Parenthesis* Say.

My third day was devoted to a fishing trip up a brook flowing into the Saco river, and the only thing I caught was a few score black flies and mosquitoes, on the side of my nose and up my sleeves. They had a curious notion that I was tender feeding, I think, for they did not bother my companions in the least but devoted their whole attention to me, perhaps in revenge for killing so many of their friends.

Just as we were getting tired of our unsuccessful fishing, I saw a very pretty cat sitting on a tree which had blown across the brook, and as I am and always expect to be an admirer of Tabby, I put my fish-pole against a tree, and putting out my hand, began to walk up to Mr. Tabby calling out in a kind persuading tone of voice "Kitty, Kitty, Kitty," but before six steps were taken "Kitty" arched up its back, and with a yawl that fairly made my hair stand on end, turned and scampered along the tree and jumped up the opposite bank in a second, and was soon out of sight. It was a young wild-cat and the men had a good laugh at my expense.

While returning that evening I discovered a glen fairly alive with mosquitoes. I never thought so many could be congregated in one place, and I hastened on after my friends, with a good billion singing around my head, Talk about New Jersey—I have been in both places and think some parts of New Hampshire deserve the prize for quantity and *ability* of its insect torments.

At Bemis my stay was short and only resulted in adding a few Longicornes and pine tree weevils, unless I add the same species common to all the other localities. The Pine weevils were quite plenty, and that day as I was standing in the woods earnestly searching for my coveted beetles, an old woodman with axe in hand came up, and after watching me a few minutes said to himself, "Wall I never, *no never*," turned his back squarely upon me and walked off, I presume, thoroughly disgusted.

This mountain region ought to be prolific in species of *Buprestidæ* and *Cerambycidæ*, and I believe a more thorough examination of the insect fauna, not only here but through the forests of northern New Hampshire and Maine, would produce some new and rare species. It would pay to make an extended tour through this part of New England, and give special attention to collecting with the sweep net and umbrella, not forgetting to thoroughly examine and collect among the mass of dead leaves and beds of moss in the valleys, and along the edges of the forests and water courses.

My last day in this part of the State was at Glen Station, where I was waiting for the south bound train for Boston, and not wishing to lose time, I went off into the woods and began to collect whatever came near me, when I met with my last specimen of that honest being, belonging to the genus homo, species Rusticus, habitat White Mts. There were two full grown specimens, and one young one perhaps ten years old; I was digging away at a huge rotten log when they saw me from afar and came forth to investigate. I was in luck and just as I pulled off a large piece of bark and saw a couple of desirable Histeridæ, one of the men came up and asked, "I say mister, what be you a doing?" "Only collecting some Coleoptera sir," I replied politely, showing him the two Histers before dropping them into my bottle. "What good air they anyhow?" I had been asked that question too many times before to care about answering and was glad the other party took it up "Why Zeke, don't you know they make medicine of them air down to Bosting?" "Go way, yer joking old man, ain't he mister?" "They use some of them for medicine" I responded, as my eye rested upon a lone specimen of the rose bug on a shrub near by; it was the only specimen I saw in the mountains and I gathered it in. As I deposited it in my bottle my man No. one, asked "What war that long legged thing mister?" "Only a solitary specimen of *Macrodactylus subspinosus*," I answered with a grim smile. "Hey?" "Only the common *Macrodactylus subspinosus* of Fabricius, which belongs to the order Coleoptera, of the class Articulata, or Hexapod invertebrates," I answered coolly. "W-h-a-t Great Scott." "Only a specimen of the family Scarabæidæ or Lamelicornes, known—" but my investigating rustic friends had fled, and as they sped on, I know not where, the boy asked "Who is that *Paw?*" "Only one of them light headed college chaps sich as came up last year, whose brain is eat up with them pesky dead languages, and you would be as bad if I ever let you go to Bosting as—" but the rest was lost to me, and soon I was seated in a railroad car, and as I sped onward toward "Bosting," I felt sad as I thought of that lost *agrilus*, and how poorly I had succeeded in impressing the White Mountain natives with the importance of Entomological study.

◆

High Priced Lepidoptera.

BY PAUL REVERE.

The world at large knows little and cares less about the value of rare and brilliant plumaged butterflies and moths. The collector who has not the opportunity to catch them nor the means to buy them for his collection, has a feeling of envy when he sees them in the museums, and in the cabinets of the wealthy collector.

The most gorgeous and expensive butterfly it has been my fortune to look upon, was the *Orni-*

thoptera Brookiana, of Malacca, a velvety black fly, with a breadth of wing of six inches, large bodied, nearly as stout as a moth, brilliantly marked on the body and wings with green, and having a rich crimson collar around its neck. This fly is scarce, and sells in this country for $9. I know of only one owned in the State of Connecticut.

A butterfly that exceeded this in price a few years ago, was the *Thaliura phipheus* of Madagascar, a fly not larger than *Papilio Philenor*, but indescribably brilliant, being streaked with green and gold and crimson metallic shades. For years not one example of this fly could be procured in America at any price.

About 1874 a European collection was broken up, and Herman Strecker the greatest collector in this country, purchased a single specimen for £3, 10s.

Subsequently an enthusiastic collector got into the Madagascar forests and sent a few to London where they were readily sold for $10 each. Encouraged by the result of this sale, he soon forwarded them in large quantities, and the price fell to $1.25 each. At this price many were bought.

This collector while sleeping by a fire in the Madagascar woods caught his clothing on fire and was so badly burned that he died. No one has since followed in his footsteps, the *Phipheus* have grown scarcer and scarcer, and they are again valued at $6 each, with a tendency to double in price before many years.

Among the high priced lepidoptera which any collector would feel proud to own is; *Papilio telegonous*, taken at Batchian, one of the Molucca islands, and valued at $7.50; *Erebus strix*, of Brazil $6; *Ornithoptera priamus*, of Australasia, $5; *Papilio Doubledayi*, of Java, $3.75; *Citheronia Ixion*, of Brazil, $3; *Morpho Cypris*, $5.50; and *Morpho menelans*, $4; *Attacus Atlas*, of China, $4.75; and *Sequosa Triangularis*. of Australia, $5.

There is no end to beautiful and expensive butterflies and moths, and I believe that it is a matter of record that as high as £100 has been paid for a new and rare specimen. We commoners have to be satisfied with the less expensive examples of beauty, in the field of nature.

◆

Mr. M. Abbot Frazar left Boston on January 5th for Mexico and lower California, where he will collect the birds and eggs of the country for Mr. Wm. Brewster of Cambridge.

Another gentleman is preparing to visit lower Arizona in Mr. Brewster's interest.

Collecting on the Amazon.

BY ——— ———

After fourteen days on board the Macapà (from Manaos), steaming against the strong current of the Amazon, which had grown tiresome enough in spite of the wonderful beauty and rarity of the vegetation along the banks. Iquitos our destination finally came in sight. It is the largest town on the Peruvian Amazon, situated on a high clay bank, which even at this the rainy season, (June), was elevated fifty or sixty feet above the water. The bank is exceedingly steep but everywhere thickly overgrown with shrubbery, except where slippery paths lead to the springs, which in many places issue from the bank, and at which the natives are seen at all hours, drawing water in earthen flasks, for the supply of the town, as well as bathing themselves and washing their scanty clothing.

On muddy spots along the shore the bright yellow and orange Callydrias butterflies may be seen settled, starting up in clouds on being disturbed, and finally scattering only to collect again when everything is quiet. I collected six species; of these three, *C. Eubule*, *Argante* and *Philas*, (the former much rarer here than on the lower Amazon) are also found in the southern United States.

C. Trite, clear yellow above, and *C. Statira*, a white specie with the inner half of the wings pale yellow, are the more abundant ones, while *C. Menippe* is the largest and finest, expanding fully four inches and a half white with orange tip on the fore wings. These gatherings of butterflies on the beach, seem to be made up of males and the females are seen very seldom, generally about the food plant of the larva, and *C. Eubule* and *Statira* are the only ones of which I have taken any number of females; while the female of *C. Menippe* is still unknown to me. It is remarkable how rarely the females of most species of tropical butterflies are seen and of many species still unknown.

Other familiar butterflies *Calænis Dide*, pale green with black markings, *Calænis Julia* and *Anarila Jutrophæ* are seen flitting about the foliage. These species are found on the whole Amazon but never in the forest being confined to the river banks and clearings, or weedy streets of towns, where they hover about the herbage peculiar to such places.

Another insect peculiar to the waterside is the beautiful *Uramia* moth which so closely immitates the genus *Papilio* both in appearance and habits, flying about in the hot sunshine, the brilliant green streaks on its wings flashing as it rapidly dashes by. It is quite common, but a very difficult thing to capture, as it alights but seldom and has a very rapid and irregular flight, generally over the water at that.

CORRESPONDENCE.

The A. O. U. and the Amateurs.

THE EDITOR ORNITHOLOGIST AND OÖLOGIST,—Sir; Dr. Northrup's letter in your December issue, proves conclusively that that gentleman's opinion of the attitude of the A. O. U. toward the Amateurs has been formed from a misapprehension of the facts.

That Dr. Northrup utters opinions before carefully considering them, his letter also proves, for no other explanation can be given for his asserting that all the scientists of the United States are members of the A. O. U. The active members of the A. O. U. hardly number fifty, while the Scientists number—I do not know exactly how many, but if my memory serves me, the last Directory I examined gave the names of some four thousand. This is quite an error, but it is not further from exactness than are Dr. Northrup's assertions regarding the A. O. U. I am ready to believe that these mistakes were made through thoughtlessness—through forming an opinion too hastily and upon too slight evidence—but while such carelessness might be excused in a school boy, it is scarcely pardonable when committed by a man who has earned the right to place M. D. after his name, and is especially censurable if committed when criticising the action of others.

All that Dr. Northrup has to offer in support of his charge against the A. O. U. of unfriendliness toward the Amateurs is, that every person professional as well as amateur, who shall obtain a permit to kill certain species, shall give a bond and have his application signed by two scientific gentlemen.

That there was a necessity for such a law, every one must regret, but that the law proposed by the A. O. U. committee contains anything that is unfair to the Amateurs, or which place them on a different footing from the scientists, can not, I think, be claimed by any one who gives the wording of the law his careful consideration.

Dr. Northrup's charge against an unnamed member of the A. O. U. is too serious a matter to be treated of so lightly. At least, Dr. Northrup should give the name of the aggressor, that the other members of the Union may be relieved of the accusation, and that the party who is responsible for it may explain his action and receive the condemnation he deserves. But my knowledge of the gentlemen who compose the A. O. U. will not permit me to think that any of them would be guilty of such dastardly conduct, and I am forced to conclude this, also, is a misconception of the facts— a misunderstanding probably, of some tale.

I should thank Dr. Northrup for his implied compliment, that I am no longer to be classed among the Amateurs, but I fear that if he should glance over the ornithological work I have so far accomplished and surely, a student is to be judged by his work, and not by a position that the accident of birth has gained for him, he would be induced to change his opinion.

But these personalities and discussion of mere opinion are leading us away from the real question at issue which is:—Do the Amateurs receive friendly consideration from the Scientists? My impression leads me to believe that they do. I have heard of numerous cases in which young students have been freely given most valuable aid in their studies; I have yet to learn of *one* case in which a scientist has treated an amateur unfairly or slightedly because he was an amateur, and I challenge Dr. Northrup or any other reader of the O. and O. to name such an instance.

When commencing my own studies of birds I was obliged to call for help on the very leaders of American ornithologists because I knew of no others, and I knew these only by name; yet I never called in vain. I was unknown to these gentlemen and had no claim upon them whatever—was merely a strange voice in the wilderness calling for aid, yet most courteously and generously was aid given to me. I was the most unlearned of amateurs. I had to ask such questions as, what book shall I get to assist me? and sent many a common bird of the field for identification; but from all to whom I applied, and the list of names, includes those of whom you of the United States should never cease to feel proud, I received none but the most kindly instruction, encouraging and courteous letters. I can not think that these men would treat their own people with less consideration than they bestowed upon a stranger.

MONTAGUE CHAMBERLAIN,

ST. JOHN, N. B., Dec. 31, 1886.

Recent Publications.

MESSRS., LITTLE BROWN & CO., of Boston have recently published a volume entitled *A Nomeclature of Colors for Naturalists and Compendium of useful knowledge for Ornithologists.* The author is Mr. Robert Ridgway whose long experience justly entitles him to be considered an authority on the subject of which the book treats. The volume is 8vo. in size and contains ten colored plates and seven plates of outline illustrations. The colored plates very clearly illustrate the various colors used in descriptive Ornithology and the accompanying text, fully explains the combination of colors which produce another.

The book also contains a glossary of technical phrases, which are of use to a novice, but contains some superfluous terms outside of natural history vocabulary. The volume supplies a need to American naturalists and should meet with the success it deserves as a valuable aid in identifying color.

F. H. C.

◆

Mr. F. L. Glezen of Providence R. I. shot at Charlestown beach in that state on September 28th, 1886, a Yellow Rail. (*Porzana noveboracensis*), a rather rare species here in New England, and was a capture which reflects credit on the collector's observations.

MARCH, 1887.

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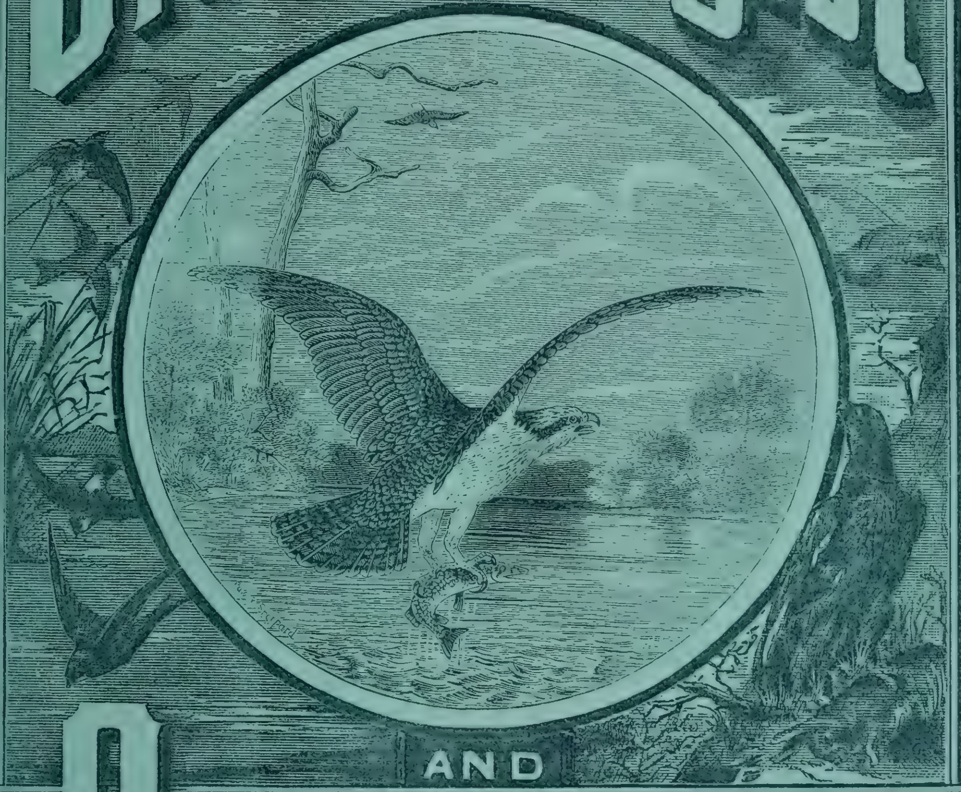

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VOL. XII. BOSTON, MASS., MARCH, 1887. No. 3.

An Ornithologist's Summer in Labrador.

BY M. ABBOTT FRAZAR.

(Concluded from page 20.)

Tringa minutilla, Least Sandpiper. Small flocks to be seen all through the summer.

Totanus melanoleucus, Greater yellow legs. A pair seen at Esquimaux Point; had evidently settled down for the breeding season; saw them several days in succession, and they made the top of a certain dead spruce a common nesting place.

Actitis macularia, Spotted Sandpiper. Common, and breeding all along the coast where-ever I visited.

Numenius hudsonicus, Hudsonian Curlew. Not a rare August migrant.

Arenaria interpres, Turnstone. One flock observed at Esquimaux Point late in May, evidently migrating.

Bonasa canadensis, Canada Grouse. A regular, though not a common resident. Probably if I had been back among the forests I would have found them common.

Bonasa umbellus. The "Birch Partridge" is a well recognized bird all along the Labrador coast up to the most easterly point I reached, but seems to be not as common as the preceding species. The nearest I came to obtaining a specimen was seeing the tail of one tacked on the wall of a house at Esquimaux Point. It was of a very reddish brown color, very much more so than any I ever saw in Massachusetts or New Brunswick, or in any of the Boston markets.

Lagopus albus, Willow Ptarmigan. In summer this bird seems to retreat to the interior to breed, and visits the coast regularly every winter. The preceding winter they were unusually abundant about Esquimaux Point, far more so than usual. People killed them in their yards, on their doorsteps and about everywhere. Two Indians I saw were said to have killed over eight hundred during the winter. But from all the evidence I could gather, this unusual flight did not extend much to the eastward of Musquarro; the natives recognize this as the White Partridge. Another species which is found about Cape Whittle in winter and which they call the Mountain Partridge, is a smaller bird and is said never to get pure white. It is a recognized species by all the inhabitants about there and is probably Lagopus welchi, as Mr. Jones with whom I lived at Cape Whittle, and who was a very reliable man, told me that several years before, he was on the shore of the straits one day in early winter, and that flock after flock of these birds were flying in from across the water and that they lit upon the first land they could reach, evidently being greatly fatigued.

Haliæetus leucocephalus, Bald Eagle. Not a rare summer resident, as I heard of about six pair that bred at different places along the coast and always in trees; saw one bird myself at Cape Whittle.

Falco peregrinus anatum, Duck Hawk. Saw three specimens at Esquimaux Point late in May, one of which fell my prey.

Falco columbarius, Pigeon Hawk. Seen at Esquimaux Point on May 18th. None seen until my return in September, when a pair accompanied by their young were haunting around the woods a short distance from the house.

Pandion haliaetus carolinensis, American Osprey. Common, and breeding all along the coast as far east as Cape Whittle.

Asio accipitrinus, Short-eared Owl. Although I saw no Owls at all during my stay on the coast, one, probably of this species, was reported to me one night at Cape Whittle as flying by the house. The reason I do not pass the species by altogether without mentioning it, is to bring up a circumstance in connection with the Puffins which I noticed in their colony near by. I

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had been surprised on every visit I made to the island by seeing numbers of Puffin's skins laying around on the rocks near the shore, and literally turned inside out. They were generally opened upon the back, and a great many skins I noticed were not torn a particle more than was necessary to get the skins over the body; then the legs were picked out, the wings thoroughly cleaned as far as the carpal point, the head was also drawn out and brain and eyes removed and skull cleaned to base of bill. I knew it was not done in the day-time and the Short-eared Owls were the most likely depredators I could call to mind, but it did not take me long to decide after looking at those skins for a few moments that taxidermy was an art long before man ever took it up.

Ceryle alcyon, Belted Kingfisher. On May the 22nd this species arrived at Esquimaux Point, and at various times I saw perhaps a dozen different individuals but did not meet with any elsewhere.

Picoides arcticus, Arctic Three-toed Woodpecker. One specimen killed in early September at Esquimaux Point. It was in company with its mate.

Empidonax Flaviventris, Yellow-bellied Flycatcher. One dead bird was picked up and brought me at Cape Whittle in early July.

Otocoris alpestris, Horned Lark. Only observed at Cape Whittle, where two or three pair were located. It is an exceedingly fine singer, in fact the sweetest I ever heard, surpassing even the Winter Wren. I might say that I determined the identity of this variety by a reference to the A. O. U. list, and seeing where such and such a thing ought to occur, which I am afraid is the only method for us poor mortals of the lower strata to do, but however, we will probably soon see some ornithological detective around with a descriptive warrant of arrest for breach of promise against some poor Lark found outside his prescribed limits, and then what a holocaust of names there'll be.

Perisoreus canadensis nigricapillus, Labrador Jay. On my return to Esquimaux Point, the first week in September, I was kept exceedingly busy packing my specimens and getting ready to leave the coast, so my gun received but little exercise, and although I was closely confined to the house I was soon made aware of an immense migration of these jays which was taking place. Right directly back from the house the low hills terminated in a straight line at right angles with the coast, and in a path which ran along the foot of these hills I took my stand and waited for the jays as they came straggling down the hillside. The flocks varied in size from a dozen to fifty or so individuals and kept following each other so closely that an interval of ten minutes between two flocks was a rarity and they never varied their line of migration but kept right on, taking short listless flights from tree to tree. I devoted but two forenoons to them and although I had nothing but squib charges of dust to kill them with, being out of medium sized shot, I killed ninety and could easily have trebled that number had I wished. How long the force of the migration kept up I cannot say but I know there were still a few passing by when I left the country ten days later.

Corvus corax sinuatus, American Raven. Rather a common resident along the whole Labrador coast, remaining the whole year around.

Corvus americanus, American Crow. Not a rare bird along the whole coast, but does not remain to face the winter.

Scolecophagus carolinus, Rusty Blackbird. Latter part of May saw five in a swamp at Esquimaux Point, but they did not remain, having evidently just arrived from the south.

Amrodramus sandwichensis savanna, Savannah Sparrow. The commonest of all the land birds I saw, and breeds abundantly on all the treeless islands I visited.

Zonotrichia leucophrys, White-crowned Sparrow. At Esquimaux Point one was brought me on May 18th, which was the first I saw; none others were observed except at Cape Whittle, where I located a few pair in some small patches of stunted spruces, but found no nests.

Zonotrichia albicollis, White-throated Sparrow. Seemed to arrive at Esquimaux Point on May the 20th and soon became common; did not see them to the eastward of that place and doubt if they leave the heavy timber.

Passerella iliaca. This species also arrived at Esquimaux Point on May 20th, soon becoming common and then rare again, evidently passing further north to nest; but at Hegaska, on my return in August, I saw a pair with their young.

Tachycineta bicalor, Tree Sparrow. This, the old White-bellied Swallow, of recent though vulgar literature, arrived on the coast May the 22nd, when I saw two. Later in July, several passed the house one day at Cape Whittle; these were the last I saw.

Dendrœca æstiva, Yellow Warbler. One seen on June 4th at Kegaska, another in August at same place.

Dendrœca coronata, Myrtle Warbler. This, our old respected friend, the Yellow-rump, appeared to the number of four one day in July at Cape Whittle, but they seemed to have lost their reckoning for they scurried by the house as if anxious to leave a country so uninviting.

Dendrœca virens, Black-throated Green Warbler. A bird of the year, which I killed at Esquimaux Point on September the 4th, was all I saw of this species.

Anthus pennsylvanicus, American Pipit. Rather common, and very tame at Cape Whittle, but not seen elsewhere. They nested exactly like the Savannah Sparrow, placing their nests on the ground in open places.

Troglodytes hyemalis, Winter Wren. Not common, though regularly heard in the thick woods about Esquimaux Point.

Sitta canadensis, Red-breasted Nuthatch. Saw several broods with their parents at Esquimaux Point the first week of September.

Parus hudsonicus, Hudsonian Chickadee. While at Esquimaux Point in the spring, I saw but two individuals, and observed none others until my return in September, when they were migrating in abundance along with the Labrador Jays. Never before had I seen them in flocks of over a dozen or fifteen, but now they passed in fifties and hundreds, and the two mornings that I was out I must have seen as many as twenty such bunches.

Merula migratoria, American Robin. Arrived at Esquimaux Point on May 17th, and was irregularly distributed along the coast, being found wherever the location suited, but wanting in others, as at Cape Whittle.

Field Notes on Some Birds of Colorado.

BY CHARLES F. MORRISON, FORT LEWIS, COL.

Say's Pewee (*Sayornis sayi*). Said to be common but I have seen but few specimens; do not believe it common here; it is more a prairie bird, found it common in western Nebraska, near Sidney; breeding abundantly in the ravines which cut through the prairie. The nest was always placed on the side of a snug cliff or on top of a small projection, much like *Sayornis fuscus*, but perhaps more lightly put together. Egg similar but larger; a set of these before me measure .81 x .64; .86 x .64; .79 x .63; more inclined to a cream tint than *fuscus*, which disappears if left exposed to the light for any length of time. I am told that it nests upon beams in old barns, which would not be surprising; a fact that brings it much *fuscus* in its general habits. Said to arrive in Colorado early in April.

December 19th, 1886, in a valley among the Pinous, three miles south of here, I found a large flock of Bluebirds (*S. artica*) probably come north with a wave, which had lasted a week. On my way home I saw many others. These birds disappeared on October 21st with other migrants and are the only birds that have come north again since that date.

Mexican Crossbill (*Loxia curvirostra mexicana*). On January 15th, I secured a male and female of this species from a flock of thirty or more, and I believe them to be breeding, as the males were in full song and many were evidently looking for mates. I saw one fine male perched upon the topmost limb of a tall dead pine singing with all his might, nor did he pay any attention to the females that frequently flew into his tree; while in most cases a female would be followed by six or seven males, singing and doing their utmost to attract her attention, which attentions she would seem to return by utter indifference, flying soon to some other tree, when the males would cease singing and appear extremely astonished at such treatment. But soon a male would muster courage to follow her, and one by one she would be joined by them all, only to be treated in the same manner. I also saw a female fly into a large pine twice with dried grass but could not detect any nest. The birds were present a week later but not in flocks, and I hope yet to secure their eggs. The song of these birds is extremely beautiful and cannot be described. I heard a male, perched high in air singing a song the exact counterpart of the evening song of the Robin, but more mellow and subdued, as if from a great distance. The two specimens taken measured as follows: male, length 6.70; extent 11.15; wing 3.80; tail 2.75; bill .73; tarsus .73; head, back, neck and heart red, slightly mixed with touches of olive, rump decidedly red, belly white, wings and tail blackish, under tail coverts black with wide white edges, bill and feet dark horn color. Female smaller, with the red of the head, back and neck above evenly mixed with dusky spots, resembling some sparrows, belly white and spotted like the young of the Thrushes, under tail coverts like the male, wings and tail similar, with secondaries light edged, rump a very bright red, length 6.45; extent 10.89; wing 3.70; tail 2.25; bill .70; tarsus .67.

Slender-billed Nuthatch (*Sitta carolinensis aculeata*). I watched these birds as long as they remained in the vicinity, climbing about the branches and limbs of the pines in search of its food. Saw one running down the trunk of a pine, suddenly stop and go up backwards to where it, in in its haste, had passed some dainty morsel. They strike at a dead limb like a woodpecker and make as much noise as some of that species. A specimen I shot was winged and came lightly to the ground and I had quite a chase before I finally secured it; then it would cling to my fingers and strike at my hand quite fiercely, in fact in a manner not quite in keeping with such a timid looking bird. These birds were found in a group of pines in company with the Pygmy Nuthatch, but while they were at the time with the Crossbills, they did not stay long but left the latter in possession.

From a number of specimens taken I find the average dimensions to be, length 6.; extent 9.95; wing 3.95; tail 2.; bill .65; tarsus .95; bill exactly .15 at base in all specimens, but I think this is not the only fact to identify it from the White-bellied (*Sitta carolinensis*). Head blackish-ash, nape glossy black, back ashy-blue, extending to tail; three outer tail feathers with much white, under parts, sides of head white, running up to the neck until it nearly meets its fellow where the black of nape and blackish-ash of the head meet, under tail coverts white and *bright* crimson, the latter predominating, bill black, under mandible and feet horn color, wings black, ashy-blue and white with no noticable markings, except slight white tips of primaries.

Harris's Woodpecker (*Picus villosus harrisi*). An abundant bird in winter throughout the pine growth. They frequent entirely the tops of the highest trees and are hard to bring down with a small collecting gun; they go in flocks of from five to twenty at this time of year. Crown black, scarlet nuchal band, wanting in female; white stripe over the eye, joining the scarlet; in the male white stripe from nasal feathers to sides of neck, there spreading; under parts a solid silvery white, being imaculate only on crissum, back black with large lengthwise white stripe, wings black with white spits, averaging four on primaries and three on secondaries, with none on four inner feathers and none on coverts; tail with four middle feathers black, next two pair black and white, outer pair pure white; length 9.66; extent 13.85; wing 5.35; bill 1.20; tail 3.75; tarsus .90: whole foot 1.73. Examples of true *villosus* taken at Fort Randall, Dakota, by Dr. Coues, average as follows: Length 9½–9¾; extent 16–17; wing 4¾–5. These dimensions are given to compare with mine, showing a gain in length of wing against a loss in total extent of *harrisi*.

January 31st. Since writing the above notes I am happy to say that yesterday I secured a set of four eggs of the Mexican Crossbill. Nest in a large pine, thirty feet from the ground. More particulars hereafter, as I expect to find others.

Winter Notes from Raleigh, N. C.

BY C. S. BRIMLEY.

The winter has been on the whole, the most severe we have had since 1880–81; the cold weather having been interrupted by fewer spells of warm weather than usual. Notwithstanding the unusual rigor of the winter, there has been no decrease in the numbers of our usual winter birds, except perhaps in one or two cases; but on the other hand, several species which one would expect the cold weather to banish altogether have been more plentiful than usual.

The winter commenced here in earnest the first week in December and by the 7th there was six or eight inches of snow on the ground, the day, however, being fine and pleasant (barring the snow) we sallied forth to see what we could get in the way of birds. I didn't get anything, however, and was returning home tired and somewhat disheartened, when in a field close by I heard some Tit Larks (as I thought) and wanting a few specimens, I started in pursuit. After following them for a few minutes they settled on a ditch bank and I turned loose into them. On arriving at the scene of slaughter, I picked up and coned one Grass Finch and four Shore Larks, the latter being a species I had never seen alive before. Rejoicing at my luck, I once more got on their track and succeeded in getting two more, after which I left them to their own reflections and came home again.

On reaching home I found my brother had also done well, his bag containing among others, a Cooper's Hawk, the first of the species we had ever taken here. In the afternoon a friend completed the list of captures for the day by bringing us a Bittern he had shot in the morning, making three species we had not taken before, though we have *seen* a Bittern on two occasions in the spring.

From that time till the end of January, the Shore Larks were quite common, but since January 31st have been quite scarce. While here, they fed chiefly on the bare ground, in fields where wheat roots had been planted but had not as yet come up. Their habits and ways of feeding while here reminded us strongly of little Plovers.

January 8th, we shot two Thrashers, and two more on January 28th, and also observed the species four times in January, although this is another species we only expect to see in mild winters and only occasionally then.

Both Pine and Purple Finches have been tolerably common all winter, but the Brown Creeper has been scarce since Christmas though common till then.

Yellow-rump Warblers have been quite common all winter and there has been no decrease in the usual supply of Pine Warblers. A Redpoll Warbler was shot on January 5th, and a Catbird was seen the day before.

Robins have been observed in small numbers all winter, and for one week, from January 6th to 13, while the snow was on the ground, they were quite common, feeding on frost grapes and the berries of the red cedar, holly and *Ilen decidua*, in company with large numbers of bluebirds; but when the snow disappeared they also departed.

On February 9th, we received by mail from Kittrells, a winter resort some thirty-five miles northeast of here, a King Rail (*Rallus elegans*) in the meat, which had been killed there the day before,—another bird we do not expect to see in this section during the winter.

A single Wilson's Snipe was seen on January 17th and 18th and five more (probably the first of the migrants) on February 12th, and a Green-winged Teal was killed here the last day of January.

Killdeer Plover have been unusually scarce all the fall and winter, only a few solitary individuals having been observed. Both the White-bellied and Red-bellied Nuthatches have been entirely unobserved since November. The Brown-headed species, which never seem to vary in numbers to any extent, having been the only nuthatches observed at all this winter.

Redwing Blackbirds have been quite common all winter, frequenting the peanut fields and securing a plentiful supply of food from the peas left in the ground.

On February 12th, we had brought to us to mount, a partial albino Redwing, which was only interesting because the cause of the albinism became evident on skinning. This bird had the two first primaries on the left wing and a small patch of feathers on the left side of the breast white. On skinning, the whole left side of the breast was found to be in a diseased condition, smelling almost putrid; the cause of which was evidently a wound, probably a gunshot wound, situated directly under the white patch. In spite of this, however, the bird was in good plumage, not at all thin or emaciated.

Historical Ground.

BY WALTER HOXIE, FROGMORE, S. C.

"I met a queer, half crazy fellow at Bull's Point one time," said our oldest inhabitant. "He had on leather pants, and was crawling around in the sand after oystercatchers and all sorts of no account birds. His name was Audubon."

Since I heard the above, that Point has seemed to me a spot of hallowed ground. Suppose we go there in May.

Along the outer ridge of sand the Wilson's Plover (*Ochthodromus wilsonius*) breeds, and they lay their three eggs in a deeply hollowed spot of loose sand. I have been told of four eggs, but cannot remember ever finding that number myself.

On flat places, where bits of shell abound, the Least Terns (*Sterna antillarum*) deposit their one or two treasures—three occasionally. The eggs are very hard to see, and more so the callow young. I have found the latter but once.

Farther back, towards the sand hills we will look for the Oystercatcher's (*Hæmatopus palliatus*) nest. A slight mound is usually selected, and the eggs deposited on the top; usually three in number, but sometimes only two. The tracks of the birds are the best guide to follow, and I usually see the eggs from quite a distance more easily than close up to them.

The Willet (*Symphemia semipalmata*) rises in a great flurry and alarm from her four big eggs among the high grass. If you feel sure that you have noted the exact spot tread carefully as you approach it, for two to one, you will tread on the eggs just one side or the other of the place where you thought they were.

Not so with the Least Bittern (*Ardetta exilis*). She goes dangling off from among some high reeds, and her nest is as plainly seen as a four-quart measure.

The bare high places are favorite spots for the Night Hawks (*Chordeiles popetue*), and the Sea-side Finch (*Ammodramus maritimus*) frequents the the grassy swamps,but although the birds are quite numerous I have yet to find their eggs.

All along the edge of the high marsh the Long-billed Marsh Wrens (*Telmatodytes palustris*) place their compact little ball-like nests, and keep up a constant scolding at the intruder. "To let" should be plainly written over the door of more than half of their domiciles.

Back towards the Hummock the Boat-tailed Grackles (*Quiscalus major*) and Red-winged Blackbirds (*Agelaius phœniceus*), unite in their expostulations as we approach their domain; and a pair or two of Fish Crows, (*Corvus ossifragus*), with their incomplete sounding "caw," hasten away from the pines.

In the scrambly oak thickets the gaudy little Nonpareils (*Passerina ciris*) are dodging about, while their soberly attired little wives will slip quietly away from thickly woven cup-shaped nests when our hands are almost upon them. Where these birds obtain their paper from in this far off spot is a mystery to me, but a nest is seldom found without some fragments in it.

In the depths of the little sultry hummock we shall find some real wood birds. The Carolina Dove (*Zenaidura carolinensis*), Blue-gray Gnatcatcher (*Polioptila cœrulea*), and Cardinal (*Cardinalis virginianus*) were there last year, and I did not half look through the woods.

◆

Nesting Under Difficulties.

On May 17th, 1886, I discovered a pair of Blue-gray Gnatcatchers building a nest on a horizontal limb of an oak tree, about thirty feet up. On May 28 I again visited the tree and found the birds had taken their departure, but as the nest appeared to be a very large one I ascended the tree to obtain it, and on examining it I found that a Cowbird had deposited an egg before being occupied by the owners, and that they had put in more lining and covered it entirely over, and had then built up the sides of the nest about three-fourths of an inch higher, but had finally concluded to abandon it, and were found building another nest a few rods from there, which goes to show that they do not willingly submit to the intrusion of the Cowbird.

SAMUEL SPICER.

Goodrich, Mich.

◆

OCCURRENCE OF RED PHALAROPE AT OTTAWA, CANADA. An adult male was discovered swimming gracefully about in the Rideau River on October 21st., 1886, and was shot by Mr. S. White. It is now in my collection.

G. R. WHITE.

Nesting of the Red-bellied Hawk.

BY J. A. SINGLEY, GIDDINGS, LEE COUNTY, TEXAS.

The Red-bellied Hawk (*Buteo lineatus elegans*) is a very common resident in this part of Texas. They select the densely wooded bottom lands, where, in the tall pinoaks that fringe the streams they find their favorite place for a nest. In these trees, where several large limbs branch out from the trunk they build. A few birds, however, prefer the uplands and select a large pinoak or a hickory tree in the vicinity of the small streams that drain that portion of the country.

They commence building their nest about the middle of March, and fresh sets of eggs can be taken until the middle of April. There is always a platform of large sticks, and on this the nest proper is constructed of smaller sticks, weeds and moss. Sometimes the Spanish moss is used, and results in a beautiful nest.

A peculiarity of this hawk is the placing of green leaves and twigs in leaf in the nest during incubation. The only other species sharing this habit (to my knowledge) is the Mississippi Kite (*Ictinia subcœrulea*). Like most other species of hawks this bird returns to the same nest year after year, and contents itself with merely repairing the structure each spring.

The number of eggs in a set is three, and sometimes two. I have never found four, although I have examined over seventy-five nests containing eggs, and have often waited until incubation was well advanced. I have heard of some alleged sets of four, but have traced all these large "sets" to one collector in Cook County, Texas, and I have since ascertained that the bird is of very rare occurrence in that county. Mr. G. H. Ragsdale, of Gainesville, Cook County, a gentleman who has devoted much time to the study of ornithology, and whose collection of bird's skins is the largest in the state, informs me that he has seen but one specimen of this species in Cook County. This bird was secured, and proved to be more of a chocolate than usual. Mr. Ragsdale also states that he has never found more than three eggs in a set. The collector who claims to have found several sets of eggs of this species in Cook County, and all of them four in number, is therefore most probably in error.

This species occurs in Bexar County, Texas, and presumably in all of the western part of the state. Owing to the scarcity of collectors here I have been unable to ascertain much about its geographical distribution. A series of seven sets of eggs of this species, all collected by Mr. Singley, in Lee County, Texas, are now before the present writer, and may be thus described:

Set I. April 20, 1886. Three eggs. No. 1: 1.96 x 1.67. Bluish white, entirely unmarked, with the exception of a few brown specks, which are not perceptible until closely looked for. No. 2: 2.11 x 1.61. Dull white, blotched with dark brown, forming an indistinct and faint wreath near the larger end. No. 3: 1.96 x 1.54. Dull white, faintly blotched with dark brown. The markings are nearly all at the larger end.

Set II. April 12, 1886. Three eggs. No. 1: 2.15 x 1.69. Bluish white, entirely unmarked, except two small dark brown spots near the smaller end. No. 2: 2.19 x 1.68. Dull white, marked with four small dark brown spots, and a few indistinct brownish specks. No. 3: 2.12 x 1.66. Bluish white, thickly marked with light brown blotches and spots. These are dispersed all over the surface.

Set III. April 9, 1885. Two eggs. No. 1: 2.00 x 1.73. Dull white, thickly marked all over the surface with spots and blotches of a faint lilac. No. 2: 2.02 x 1.68. This is a most peculiarly colored egg. The ground color is of uniform light yellow; over this light brown spots and blotches are spread all over the surface. These look as if they had been lightly brushed over while fresh lengthwise, from the larger to the smaller end of the egg.

Set IV. May 18, 1885. Three eggs. No. 1: 2.12 x 1.70. Dull white, thickly speckled all over with dark brown. Slightly nest stained. No. 2: 2.01 x 1.73. Dull white, faintly spotted with dark brown. Badly nest stained. No. 3: 2.02 x 1.67. Dull white, spotted and speckled with dark brown. The markings are more numerous at the smaller end, and the egg is badly nest stained.

Set V. March 22, 1886. Three eggs. No. 1: 2.11 x 1.67. Bluish white, marked with a few blotches of dark brown. The general appearance of the egg is almost unmarked. No. 2: 2.13 x 1.67. Dull white, blotched and streaked with dark brown. Slightly nest stained. No. 3: Bluish white, spotted with dark brown, mostly near the smaller end. Has a few lilac shell markings.

Set VI. April 20, 1886. Three eggs. No. 1: 2.09 x 1.69. Bluish white, faintly spotted with light brown and lilac. No. 2: 2.07 x 1.73. White, boldly blotched with large spots of rich reddish brown, tending to become confluent near the smaller end. A beautiful egg. No. 3: 2.08 x 1.73. Bluish white, heavily marked with rich reddish brown at the larger end almost exclusively, where the markings are confluent and cover the end of the egg. This specimen and No. 2 of this set are the handsomest eggs in the series.

Set VII. April 22, 1886. Two eggs. No. 1: 1.98 x 1.59. Dull white, streaked with light brown, becoming confluent at the smaller end. No. 2: 2.02 x 1.57. Dull white, boldly blotched with bright reddish brown, the markings tending to become confluent at the smaller end. Nest stained. Mr. Singly shot the female parent of this set of eggs, so that there can be no question as to their identification, but he states that otherwise he would have been disposed to regard them as belonging to the Swallow-tailed Kite (*Elanoides forficatus*), as he considers they resemble very closely some eggs of the latter bird that he has taken. To the present writer their resemblance to certain eggs of the Broad-winged Hawk (*Buteo pennsylvanicus*), is far more apparent.—J. P. N.

* * *

On December 24th I shot five American Crossbills, two males and three females, out of a flock of about twenty-five, they were in an old corn field, about seven miles from Waco.

Chas. D. Oldright.

Waco, Texas.

Mr. F. B. Webster lately drew my attention to a Sharp-tailed Grouse which he had just finished skinning. The right leg had received a shot which was imbedded in the knee joint, and the leg and foot was apparently lifeless and shriveled, the toes being very brittle. Strange to say the bird was very fat and in good condition.

We have recently had some experience with the preparation of Sharp-tail Grouse for our collection, and in the determination of sex, we were somewhat surprised at the utter impossibility to decide before dissection, as light and dark plumaged birds of large, medium or small size would prove to be either males or females regardless of any conformity to exterior conditions.

* * *

White Squirrel. During the month of November, 1886, a pure white squirrel with pink eyes and lips was shot in Oxford, Conn., and sent to a taxidermist in Philadelphia. It was about the size of our common grey squirrel.

P. E. Hatch.

THE

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AND

OÖLOGIST.

A MONTHLY MAGAZINE OF

NATURAL HISTORY,

ESPECIALLY DEVOTED TO THE STUDY OF

BIRDS,

THEIR NESTS AND EGGS.

DESIGNED AS A MEANS FOR THE INTERCHANGE OF NOTES AND OBSERVATIONS ON BIRD AND INSECT LIFE.

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Editorial.

By private advices, and also by reference to the Colorado newspapers, we observe that the Colorado Ornithological Association is in course of organization. The results which it is possible to achieve by such an association, are very great, and it should receive the intelligent support and co-operation of every ornithologist in the state. The principal leader of the movement is Mr. Charles F. Morrison, who is well known to our readers. We are aware that his successful plan, will not be assisted by any enconium at this late hour, yet recognizing in such endeavors a great advance of our science, we hasten to add our mite, by endorsing Mr. Morrison and his associates.

We welcome amongst our exchanges *The Audubon Magazine* published by the Forest and Stream Publishing Co., of New York. As an efficient aid to the cause of bird protection, the Magazine seems to be doing good work. However we are reminded very forcibly of the oft repeated incidents of a house cat being foster mother to orphan rabbits, which we have read in the columns of the Forest and Steam. That the weekly issue of the Forest and Stream, in which the pages, both reading and advertising, are filled with accounts of slaughter, and instruments with which to pursue the "manly pastime" it advocates, should be varied with a monthly journal which goes to an extreme in protection, presents an appearance as much out of harmony as the association of *Felis* and *Lepus*.

City Singers.

BY J. M. W., NORWICH, CONN.

How long is a bird's day? On the morning of June 18, 1885, birds began to sing at three o'clock, and the last note of the Robin's vesper hymn died away at eight p. m., exactly. The orchestra began tuning their instruments at 3.15 a. m., June 12th and 14th, 1885, and at 7.45 p. m., a few soloists had not ended. By such records in my note book for the last part of May and the first part of June, we find that a bird's day in the height of the season averages about sixteen hours. No advocates are they then for an eight hour law. There is no record of a strike among the bird unions, such as the platform-builders, the mason-birds, the weavers, carpenters (woodpeckers,) plasterers and basket-makers ("Basket-bird"— schoolboy's name for the Red-eyed Vireo.)

Who will explain fully and simply the purpose of the general chorus at dawn? It is not in the country proper it is best heard; but in a well shaded city of 20,000 people, the noise of the morning overture is something tremendous. There are thousands of people—and bird-lovers too—who have never listened to it. Let these late risers get up on a still mild June morning at three o'clock and soon note something surprising. The piccolo of the Kingbird gives a few short reveille notes before the earliest Robin. In ten minutes hundreds of Robins have joined issue, Chebecs and Pewees are a tie for second place, while scores of Orioles and Wood Thrushes, and no lack of Tanagers now fill up such a volume of sound that ordinary conversation cannot be heard. This wonderful outburst is over in twenty minutes or so, and, after five o'clock, we only have the individual or solo singing to rivals or mates, and reveling at food and play.

The serenade at night is nothing compared with the short morning concert. That seems to be an involuntary and general impulse upon starting from their retreats for field work. At this time too the tameness of the singers is worth noting. A Robin will remain on a gate-post or horse-block, within six feet of a passer-by, its throat bursting with song, and if startled will pick up its broken song the second it alights a few feet away.

Notwithstanding the hue-and-cry about the protection of birds from the milliner and collector, there is no diminution in most kinds here, and in some species a positive increase. If we except the hole-builders, dispossessed by the European army of occupation, it is hard to name a species that is decreasing. Are there not as many crows as ever, though pursued relentlessly by the farmers; and though shot for his plumage the country over, is not the Blue Jay exceedingly common everywhere? And so though the Scarlet Tanager is shot right and left, each year sees as many more. In the countryside we note a scarcity only among the Bobolinks and Indigoes. For the first the autumn "menus" assigns the true cause. Of city birds there is surely no lack. This year every family has its pair of Catbirds. On one apple tree in our neighbors yard nestled Kingbird, Vireo, Bluebird, Purple Finch and Tanager. In one Phoebe's nest on our house were hatched three sets of young; the first lot were kicked out of the nest by a growing cowbird, but I took the cowbird's eggs from the other two sets and the Pewees throve. Baltimore Orioles fairly hold their own.

There are fine singers which have been increasing in our city for several years. The Wood Thrush here finds a safe place for its adobe hut on the low horizontal limbs of the maple shade trees. Take your stand at the Union street entrance of the City Hall and walk a few rods north, and you will hear, on a fine June forenoon, half a dozen Tanagers on Tail Hill singing their incisive lay. The Purple Finch is the most persistent April singer everywhere here, the Robin for May, and the Warbling Vireo for late June. The last bird, like the Orchard Oriole, which used to be a rare straggler city-wards, but now nests on every side of our town. I knew of five nests this season—one nest on a young pear tree, not six feet from the street, was guarded by a bull-dog, a hive of bees, and an ever-open casement near by. This performer sings most freely in the torrid June noon-tide when other songs are hushed. June 12, 1886, Orchard Orioles, nesting in the pear and apple trees, were noisily singing in every corner of the village of Noank. The last and most welcome addition to our urban list is the Rose-breasted Grosbeak, which is now becoming common in the city limits. Last year I drove upon the sidewalk up town, and with my whip started the female from her nest and extreme set of five eggs in a spiræa bush, and this season I knew of three nests in the city.

The English Sparrow distrusts the gaudy Finch and makes war upon the male whenever he tries to sing a note. The modest female through her dress and engrossing domestic duties fares better. By nesting in the city, these woodland singers escape many natural enemies and the dust shot of the collector. But for the cats and the too-observant school-boy they would through their songs, do more than their share towards making our homes in summer an earthly paradise.

[Happy Norwich! Our large cities do not fare so well. Take Philadelphia for instance. There no birds are to be found in the built up portion of the city except English Sparrows, and we never hear a single song note. Only in the parks and suburban districts is the joyous song of a bird heard.—Ed.]

A Trip to the Farralone Islands.

BY HARRY R. TAYLOR, ALAMEDA, CAL.

The Farralone Islands, which lie about twenty-three miles off San Francisco Bay, are rugged and wildly picturesque rocks, where myriads of sea-fowl make their homes during the breeding season. The largest and only inhabited island is South Farralone, where there is established an important lighthouse station.

On the fifth of June, 1886, I was so fortunate as to make a collecting trip to this interesting island, and, while there, secured many fine specimens of eggs and skins. A Government supply steamer visits the light-keepers on Farralone only once in several months, and as there is no other communication with the island except by fishing boats at irregular intervals, a visit to them is not always practicable, and is seldom accomplished without difficulty. It was with some degree of satisfaction then, that I steamed out through the Golden Gate, on the Government steamer *Madrono*, determined to see everything possible of the bird life on these seldom visited rocks in the Pacific.

The California Guillemot or Murre (*Lomvia troile californica*) is the commonest bird of the islands. Many thousands of them are seen every year on the Farralones in spite of the relentless persecution of the egg-pickers, continued year after year since the early days of California. Over thirty thousand dozen were once gathered annually for the San Francisco markets, but the eggs are now not held in such high esteem and a smaller number is gathered than formerly. When hen's eggs came to California around the Horn the "Farralone eggs" were much sought after, some selling for as much as a dollar a dozen.

When I arrived at the island I was filled with astonishment at the vast number of guillemots, gulls, puffins and other birds, which being disturbed from their positions on the rocks by our approach, flew into the air in masive flocks, and created a perfect din by their startled cries. I had been prepared to see a great many birds but had never even in imagination, pictured such a multitude of sea-fowl together as I then saw around me.

The California Guillemot (*Lomvia troile californica*) lays its large pear-shaped egg on the bare rocks in any position, and colonies of them are to be seen sitting together, covering their eggs. The guillemot are such clumsy birds on land, and are so tame in the breeding season, that they can often be caught alive by hand. Their great enemy is the Western Gull, (*Larus occidentalis*) for the latter is a ruthless pirate and steals and eats the eggs of other birds, especially the guillemot's, at every opportunity. A murre is sometimes attacked by the gulls; one on each side, and so harassed until one of the gulls gets the egg, which he divides with his fellow pirate.

The Western Gull (*Larus occidentalis*) builds its nest of dry weeds on the rocks, at any elevation, and deposits usually three eggs, sometimes but two. One gull will not eat the eggs of another, but sometimes when its own nest has been despoiled, it steals the eggs of its neighbor. They are very fearless when in defence of their nest, and swoop down with piercing cries close to the heads of those who come near their nests. I found no other species of gull nesting on the island.

Another bird, rather common, is the Tufted Puffin (*Lunda cirrhata*), known on the island as the Sea Parrot. They are probably the most curious sea-bird on the coast. I was at a loss to see why they had such large and powerful beaks until one day an enraged bird covering an egg, took firm hold of my finger and then I knew that with its big grooved bill as a weapon of defence, the bird was a dangerous adversary, even for man. They lay one large egg in a burrow or hole in the rock, in which are carelessly scattered coarse dry weeds. They have their favorite breeding places or rookeries, where numbers await the diligent collector; but he must be a cool-headed climber, for many of the eggs are laid in dangerous places and over three hundred feet above the sea.

Cassin's Auk (*Ptycorhamphus aleuticus*) which lays its bluish-white egg in a burrow like that of the Puffin, is a nocturnal bird, and so is seldom seen, except when pulled out of its hole with an egg. Mingled with the incessant shrieks of the gulls flying in the moonlight overhead I could hear their noisy, creeking notes nearly every night. As many male auks as females were found covering their single eggs, proving that both birds take turns in incubating, as is the case with the Comorants, Puffins aud many other sea-birds.

The Pigeon Guillemots or Sea Pigeon (*Uria columba*) are graceful birds, and as they strongly resemble, in certain particulars, both a Guillemot and a Pigeon, are very well named. They usually construct a round nest of small stones in rocky cavity or concealed place under a boulder, where two eggs are ordinarily deposited. It is seldom that but one egg is laid.

There are doubtless as many as a thousand Rock Wrens (*Salpinctes absoletus*) on South Farralone, where they find many suitable places for their nests. I know of but one instance where ten eggs were found in a nest, but the number in a set is usually from four to eight. Often in one or two eggs in a set incubation is quite far advanced while the rest are fresh. The nests are not easily discovered, and even with the pile of small rocks, with which the Wren invariably decorate the neighborhood of its nest, as a guide, I met with but few.

I took a number of birds and eggs of the rare Ashy Petrel (*Cyochorea homochroa*) and was in nearly every case directed to the egg by the pungent odor of the parent bird, which lay covering its single delicate egg. The latter were found in walls of stone, and in favorably protected nooks among the rocks. The young of the Ashy Petrel are covered with long slate-colored down, which makes them appear larger than the adult bird.

Three species of Cormorants breed on the Farralones: the Baird's (*Phalacrocorax violaceus resplendens*), Brandt's (*P penicillatus*) and the Farralone Cormorant. Baird's Cormorant lays from three to five eggs in a quite compact nest, which is used year after year. On the Farralones they are found breeding in communities of not more than five or six nests, which are mostly built on shelving crags of a precipitious clift. To secure the eggs it is often necessary to make use of a long stick with a scoop attached. When the eggs are stolen the cormorant continues to sit on the nest, and soon lays another set of eggs. The other two species of Cormorants build a loosely constructed nest of dry weeds and sea-weed and breed in colonies.

Brandt's Cormorant lays from three to seven eggs and is by far the commonest Cormorant on the island. I visited a large rookery of this species which contained over four hundred nests built two or three feet apart.

The Western Gulls hovering overhead, took advantage of the flight of the Cormorants from their nests (a wonderful sight) to fly down and devour the small fish scattered around which they seemed to prefer to the eggs, though they spitefully broke a number before the Cormorants returned. I do not think that the latter interfere with the eggs of their species but I have often watched them fighting over the weeds which composed their nests. New nests are sometimes torn to pieces and carried off by the Cormorants to surrounding nests. This, perhaps explains why they are so often seen covering nests in which no eggs have been laid. Happily for the Cormorant their eggs are not considered edible, and so are undisturbed except by the few egg-collectors who visit the island.

I was told by the light-keeper that three or four species of hawks visit these islands every year to feed on the Guillemots. I was shown an old Raven's nest built of sticks in an inaccessible place where young had been raised the year before.

◆

Nesting of the Kentucky Warbler.

BY THOMAS A. JACKSON, WEST CHESTER, PA,

The Kentucky Warbler (*Oporornis formosas*) in this part of Pennsylvania is a frequent summer resident, and indeed in some localities, may almost be considered a common bird. Its arrival early in May is at once announced by the clear musical notes of the male, heard in the dense, swampy thickets or low lying marshy pieces of woodland which it delights to affect.

The birds at this time are not shy and suspicious like most of our warblers, but the males will sing, oblivious of your presence, until you can approach within easy view of his golden breast.

To find the nest and eggs of this beautiful bird has always been an object of great ambition to me, and though a number of them have been taken in this vicinity from time to time, never until the season of 1886 has it been my good fortune to discover them myself.

On the bright spring-like afternoon of June 1st, 1886, I left the train at Glen Mills, a little station in Delaware County, and plunged into the heavy timber growth, that covers the north side of a steep, long hill that rises rapidly from Chester Creek to its summit, several hundred yards in extent, and from the top of which spreads out one of the finest views of hill and valley in this beautiful county.

From amid the rich black loam and beds of withered leaves numerous springs arise, and trickle down among the dense masses of fern and moss, and other vegetable growths that are more often found in swamps than on high woodlands; and in places immense rocks are piled up, giving an air of wildness to the spot. I had advanced but a few paces in my laborious search up the steep hill side, when I heard the musical note of a Kentucky Warbler some distance ahead, and inspired by the welcome sound, I proceeded toward the spot from whence it came.

Meanwhile the bird had become silent, but after a few minutes of careful search, inspecting every foot of ground as I proceeded, a bird flew almost from my feet, alighting on a bush some twenty feet away, uttering its sharp impatient chirp,—unmistakably a female Kentucky Warbler. Looking towards the ground, there, without concealment of any kind, more than that afforded by a few weeds and saplings, lay my long coveted prize—six eggs in a bulky nest,—elevated somewhat from the ground by the mass of dried leaves at its base. It was not even defiled by an egg of that skulking impostor, the Cow-bird.

Securing the nest and the eggs, in which incubation was a few days advanced, I considered myself well repaid, although later in the day, on the same day, I found a nest and six eggs of the Worm-eating Warbler (*Helminthotherus vermivorus*), though so nearly hatched that they were hardly capable of preservation.

There are some peculiarities about this set of eggs of the Kentucky Warbler, that render them quite different from any I have seen. In shape they are long, and they taper to a comparatively sharp point; the greatest diameter being quite near the larger end. As will be seen by the measurements they vary much in size. To give an accurate description of the coloration would be a difficult task. The ground color is of a dull white, wreathed and sprinkled, more abundantly around the greater end, with spots of light purple running into dark brown, seemingly beneath the surface of the shell. Over these markings, and scattered over the entire shell, are points. blotches and streaks of a rich brown shade. The general appearance is plain, notably free from any of the bold markings common in this species. They measure, .80 x .63; .78 x .59; .78 x .60; .75 x .59; .76 x .58; and .75 x .59.

A description of the nest can be given with more accuracy than of the eggs. The entire body or bulk of it was composed of dead leaves of the white oak put together in a loose mass, that stood above the ground six inches or more. The lining of the nest was made of the fine tendrils and stems of some creeping plant, with which I am not familiar, together with a small quantity of horse hair imbeded in the bottom; but altogether so thin and flimsy that the leaves showed through. The nest is quite a large one, measuring two inches in depth (inside) by three inches across the top.

◆

Some Birds of Heron Lake, Minn.

BY J. W. PRESTON, BAXTER, IOWA.

Of all the localities which it has been my privilege to visit, Heron Lake stands at the head of the list. To any one interested in the study of bird life who may have it in his power to spend a season there, I can assure an abundance of valuable material. From earliest migrant to late summer resident the region abounds in species.

The locality is a well-known rendezvous for sportsmen, for spring and fall shooting. Among other game-birds are found vast numbers of Canvas-back and Red-head Ducks. Both these species remain to breed, though not so plentifully as formerly. Here also may be found White Pelican, Double-crested Cormorants, an occasional pair of Ring-billed Gulls, besides very many species of ducks, mostly remaining to breed, and so abundant are many species that hundreds of nests may easily be found. A few pair of Pin-tail Ducks remain during the summer and the nests may be expected in grassy places back from the lakes.

One pair at least, of Merganser (*Mergus merganser*) had hidden their treasures near the lake shore the season I spent there. But of the very many desirable species noted, Franklin's Gull (*Larus franklini*) was most abundant, literally swarming by thousands, about the lower end of the lower lake, over the great marsh, where a few dozen pair remain to nest, about one hundred and fifty rods up stream from where the marsh drains off into the river, and in sight of the town of Heron Lake.

I hope in a future number to give a list of the birds noted there by me in the few weeks I spent, as it is one of interest. Perhaps few local ornithologists are aware of the great abundance of species represented, and that so many are to be classed as summer residents. To any one who can arrange to spend a few weeks there from the middle of May, about the marshes, ponds and lakes, a rich harvest of oölogical specimens, as well as valuable information will doubtless result, as the vicinity swarms at that time with birds great and small, each intent on life's duties.

Unused to the notes of water birds, it was a great treat to me to listen to mingled voices which floated up from grassy marshes and cane-grown shores, on a quiet evening. It would require experience and a trained ear to distinguish each species. Gutteral squawk of Night Heron, constant cries and chatter of Rails and Coots, continued din of the myriad Gulls settling to rest, while deep and long echoed the musical pumping of the American Bittern. Memory dwells long upon the charms of that favored spot.

◆

The Number of Eggs Laid by the Robin.

BY SHELLY W. DENTON, WELLESLEY, MASS.

As to the number of eggs a Robin (*Merula migratoria*) lays, I would state that a young man who has collected many eggs brought a Robin's nest one day containing seven eggs. I was rather doubtful in my own mind as to his honesty in this case, although I had never had reason to previously doubt his veracity. About two weeks later, in a swamp of low bushes and trees close to Charles River, I found a Robin's nest placed in a pine tree near the end of a low branch, containing six eggs, while immediately under the nest was the seventh egg, whole and unbroken lying on the leaves with which the ground was carpeted. On this seventh egg were three small snails, or "slugs" as we commonly call them, that is, the kind without a house on its back. On removing these slugs from the egg I noticed that wherever they had attached themselves to the egg, the egg was pure white, the slugs having absorbed all the coloring matter from the shell.

Here was a nest containing six eggs, about which there could be no question; as to whether they were all laid by one bird it is impossible to say. Of course, one can imagine many ways in which the nest came to have so many eggs, but I am quite certain that in this case it was not caused by the interference of human beings, it being in a wild and secluded spot seldom visited.

Returning to the snail question, I would like to ask what substance is it with which the slug seems provided that will take the color from a Robin's egg, when with soap we cannot wash it off?

◆

Henslow's Sparrow.

BY L. JONES, GRINNELL, IOWA.

Henslow's Sparrow (*Coturniculus henslowi*) so closely resembles in appearance its near relation the Yellow-winged Sparrow (*Coturniculus passerinus*) that one might easily be mistaken at first sight by appearances. But not so with the song. Instead of the long-drawn insect tone of *passerinus*, the song of *henslowi* consists in a few short and rapidly uttered notes; something like this: *tse, tse, tsip*. Force the air through your closed teeth, make the sylables as short as possible, and you will have a fair resemblance to this bird's song.

Its manner of feeding, and its breeding habits too, are very nearly like those of *passerinus*. Its nest which is placed on the ground in a tuft of grass, is composed almost entirely of dry grass with occasionally a few of the long hairs from a cows tail. The four or five eggs are greenish or grayish white, profusely speckled, blotched and dotted with several shades of brown and lilac shell markings, and average about .75 x .57.

It arrived at Grinnell, Iowa, on April 17, 1886, and became common by the 23d. From its arrival and until August 2d its song was heard, but it was not resumed later. Breeding about May 25th, it leaves us by October 16th.

This is a bird of the fields and meadows, frequenting grassy but not bushy places. The over-grown, neglected field, or many seeded meadows are favorite resorts, and here it nests in profusion. *C. henslowi* is one of our most common sparrows, but strange to say, it is hardly known to our local ornithologists.

ENTOMOLOGY.

J. A. WRIGHT.
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ASSOCIATE EDITOR.
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A Few Field Notes.

BY L. E. HOOD.

I went out to the Malden woods, Jan. 31st, with a hatchet, to collect under the bark of some dead trees. In a little more than an hour and a half, I found about a hundred and twenty-five specimens, of about twenty species of Coleoptera.

With the exception of turning a few stones lying in an inviting place among some leaves on a side hill free from snow, I put my whole attention to a few oak and pine trees, cutting off the bark and taking the beetles I uncovered.

When I first arrived at my localily, I gained the summit of a high rock and looked off among the trees to find a large dead one that would seem to be worthy of my time; seeing one not far off I worked my way there, getting several specimens of *Adalia bipunctata*, Linn. and *melanotus communus*, Gyll., under bark of trees along my path.

My first beetle under the bark of the big dead tree, was a fine *Rhagium lineatum*, Oliv. This was followed by several specimens of *Cleridæ*, *Chrysomelidæ* and a couple of weevils, while there were more *Melanotus* and a species of fire fly, than I wanted to bother with.

The only work in winter, that pays for the time spent in collecting, is with the hatchet in both dead and living trees. As a matter of course, there will always be the common species of *Elateridæ* and a scarce representation of other families that will not be worth the trouble of collecting; but I do not know of a single trip that I have ever taken, when I did not get one or more species that well repaid me for my trouble and time. This day was not an exception, and two extra small specimens of *Coccinella* (Cycloneda) *sanguinea*, Linn., were the two choice prizes.

They were of an unusually light color, but have been growing darker since I found them, until now they are darker than any other specimens in my cabinet.

A young collector often wonders at finding a species that should be brown or black, of a light cream color; but this is owing to the fact that the specimen has but recently emerged from the pupa and would gradually gain its color as it fed and become exposed to the air. This is often noticed in the *Carabidæ*.

By the way, the *Carabidæ* are spring beetles, and by the time this article is printed, it will be time to search under stones for the early species, many of which will be choice and rare. A good trap is to place thin boards or pieces of tin on the grass or among dead leaves, and after a few hours you will get many good beetles which crawl under for shelter.

Many of the ground beetles, the *Carabidæ*, *Staphylinidæ* etc., emerge as soon as the snow is off the ground, before the sun gets warm enough to entice other families from their snug retreats, and it is well to search for them before the leaf and flower beetles appear. Look for *Cychrus* in the dead leaves and under stones where snails are to be found.

Sphingidæ of New England.

SPHINX DRUPIFERARUM ABB.

Palpi black with a brownish shade.

Head and thorax of the same color, with a band of light gray on either side, meeting in front of the antennæ. Metathorax brownish, mixed with gray, with black tufts. Abdomen grayish brown, with a slender black dorsal line and a black band on either side, broken on each segment by a light gray spot.

Anteriors light smoky-brown, shading to light gray on the costal margin, and lightest toward the base of the wing; a series of five black lines occupy the spaces between the veins, the first running from the base, just above and nearly parallel with the sub-median vein, across the darkest portion of the wing, and the last forming an oblique apical line; another black line defines the sub-costal vein at the disc. The marginal space is occupied by a broad whiteish band, preceded by a wavy black line shaded with white and followed on the margin by a band of light brown. Fringes brown.

Posteriors smoky-brown, gray at the base, and crossed, at about the centre, by a grayish band. Marginal band and fringes light brown.

Underside of anteriors dark gray with a purplish tinge. The base is slightly darker than the margin, the shade being defined by a brownish line, which crosses the veinlets nearly parallel with the margin. The three black lines nearest the apex, on the upper side, are faintly shown.

The underside of posteriors is gray, with a dark brown band with irregular edges, crossing near the centre, and a smoky-brown margin.

The underside of the thorax has a yellowish tinge, shading to dark brown at the junction with the head.

Underside of the abdomen gray, with a slender black ventral line, and also one on either side.

Expanse three and one-half to four inches.

The mature larva is bright green, marked on either side of the head, with a vertical dark brown stripe, and with seven oblique white stripes, bordered above with purplish, on either side of the body. Spiracles bright orange. Caudal horn dark brown, touched with yellow at the sides of the base. Length three and one-half inches.

Pupa dark reddish-brown.

Food plants, plum, lilac and apple.

The perfect insect appears in June.

Early Spring Collecting.

BY PAUL REVERE.

Just as soon as the weather becomes mild and the frost-fetters are off earth and stream, it is time for the entomologist to be moving. Not with the net at first, but with a digger to look for the burrowing pupæ and for pupæ beneath logs, stones and leaves. Open spots, where trees are few and far between, are the best places to find the burrowers. The digger may be a trowel, a chisel or a pronged fork. The place to raise a sod for inspection, is within eight inches or a foot of some tree, standing by itself and in a light soil. The sod should be cut four inches thick at least, and be carefully lifted, then the edges of the hole should be examined and the sod tapped softly with the trowel, and the pupæ, which form no cocoon or a very weak one, will drop out. Then the roots should be torn asunder for Bombyces. A tree beneath which cattle have gathered, if they have not approached too near the trunk, is best. Trees situated on the edge of streams and dykes, in friable soil, are promising places for the pupæ hunter. This is, in a measure, blind hunting; but enthusiasm in the field and patience, have much to do with one's success.

While searching for these subterranean pupæ, one should have an eye to walls, fences, trunks of trees, copings and sheltered places for the pupæ of butterflies and moths.

Two much care cannot be exercised in removing the larvæ or pupæ from their places, for nothing is so fatal to success here, as bungling work. The chrysalis of butterflies and the cocoons of spinning moths should not be pulled from their places, but be carefully disengaged by clipping off a part of the substance to which they are attached.

These pupæ should be kept in a moist atmosphere, but not in a soil where dampness of the pupa is continuous. A jar in which is a few inches of silver sand wet in March, will contain moisture enough in May for their healthful development. They should be placed on the sand, not in it. I have found that the larvæ of sphingidæ placed in three inches of silver sand wet in the fall, needed no further attention to hatch in the spring. I have had the best of success by this mode, which seems to many particular entomologists very shiftless.

This fall and spring collecting of pupæ (for October is as propitious for it as April), results often in the capture of rare moths and gives the collector beautiful specimens of moths, which caught in the net are always more or less faded, worn or broken.

We would advise entomologists to make an effort in this direction. The finds are not large, but the result is most always gratifying.

Collecting on the Amazon.

BY F. K.

As soon as the officer of the port had cleared the vessel, I jumped ashore, butterfly net in hand, to make a preliminary examination of my new collecting ground.

The town consisted entirely of one-storied houses with mud walls, (the better ones also plastered and whitewashed) and palm-thatched roofs. The houses ranged along wide but extremely muddy streets, which crossed each other at right angles. The reader can form an idea of the size of this, the largest town on the Peruvian Amazon, if I state that when standing on a corner, the woods could be seen at the ends of the streets in every direction. The streets were choked with weeds and so swampy that it was necessary to hug the walls of the houses closely, where the overhanging eaves protected the ground from the rain. All kinds of semi-domestic animals were roaming about, conspicuous among them large hogs, which, curious to relate, had here abandoned their usual custom of wallowing in the mud, and taken possession of the scanty dry space along the sides of the buildings. Narrow wooden bridges were thrown across the streets at the crossings, as it would otherwise have been impossible to get to the other side.

It did not take me long to find a path towards the forest, but I found I had some distance to go before I reached it. For over a mile I walked through open country with patches of dried-up looking trees, which had once been under cultivation. It proved to be very poor collecting, and I saw only a few of the very commonest insects flying about. Even when I had reached the thick forest, I found all kinds of insects scarce, but most of those I saw were different from those I had taken on the lower Amazon.

Lepidoptera especially were rare, and sometimes I would walk on for a quarter of an hour without so much as seeing a butterfly.

The walking was extremely tiresome and difficult; it was muddy and wet everywhere, and at short intervals, brooks or pools had to be crossed on slippery logs, where a false step would plunge one into the soft mud, perhaps up to the waist,—as I found on several occasions, where I tried to keep my eyes on some rare butterfly and the path at the same time.

One of my first captures was a very pretty little butterfly, *Erycina Melibaeus.* The upper surface of the wings are black, with a crimson bar through them; while the hind ones, which are prolonged into a broad, blunt tail, have an additional dash of the same color. Beneath, it is a deep iridescent blue, with a red spot on the inner margin of each wing. The blue is broken by a black band through the middle of the wing, and in certain lights changes to an intense green. I often saw this butterfly settled in the path or on the shrubbery, but its motions were so sudden and rapid that it was quite a trial to keep sight of it. Even when I succeeded in capturing one, it frequently beat itself to pieces before I could kill it. In the female the tails are more strongly marked, and the markings of the wings are of an orange-red. On the under surface it lacks the brilliant blue of the male, being the same as the upper side, except that the markings are stronger.

CORRESPONDENCE.

The A. O. U. and the Amateurs.

Editor Ornithologist and Oölogist, Sir:—In the December number of the O., and O., I find a letter, with the above title, from Dr. W. DeForrest Northrup which contains statements clearly showing that he is laboring under misapprehensions. Some of these I think, with your permission, I may be able to remove. He reiterates a statement made by him on a previous occasion, (O. and O., July 1886,) that "there is a disposition of the members of the Union to ignore the privileges of the young students of ornithology." I must confess that I was at first puzzled to know in what way this had been done. or to recall any evidence of such disposition. I certainly believe I am in a position to know the aims and purposes of the members of the A. O. U., in relation to this matter, especially of its leading members—the class evidently in the mind of the writer—but I have never heard such sentiments expressed, nor observed any indication that they are entertained. Your correspondent, however, explains himself quite fully in what follows, and shows that he evidently misunderstands the facts in the case. "As the laws are now worded," he says, "a person to gain a permit must give bonds, and I know that many who are entitled to a permit are debarred for that reason." Why this is the case is not evident, since no money has to be advanced by the applicant for a permit, or by any one for him; he has merely to find among his friends two persons who are willing to do him the favor of becoming his bondsmen in a small sum, which, if they have reason to believe that he is upright and conscientious, they can have no hesitation in doing; for they become liable only in case he defies the law and collects or destroys birds contrary to its provisions, that is, for other than scientific purposes.

In proof that his charge against the A. O.U., is well founded, he asks, with emphasis, "what scientific body recommended such laws?" and further asks if the A. O. U., does not desire "a law by which all applications for a permit must be signed by some scientific gentlemen?" To these questions I frankly answer, yes. Then your correspondent asks, "Who are these scientific gentlemen?" To this he himself makes answer, "Why! members of the A. O. U., and they would have the whole thing in their control—if they could."

Now it happens that on this point I can throw light by a simple statement of facts. Under the law recently passed by the State of New York—which is essentially the law proposed by the A. O. U., Committee—the American Museum of Natural History in New York city is empowered to grant permits, fourteen of which have been issued up to date. The signers of the vouchers of the applicants of these permits number twenty, *eleven* of whom are *not* members of the A. O. U., *nor even ornithologists*, but they *are* naturalists or "scientific gentlemen." Only five (out of the twenty) are active members of the A. O. U. Furthermore, no applicant has been denied a permit on the ground that his vouchers were not satisfactiory. As I happen to be agent of the museum in this mater of permits, and also a member of the A. O. U., Committee on Bird Protection, and at the same time president of the A. O. U., we should have here an aggravated case of grievances on the part of Amateurs against the A. O. U., if Dr. Northrup's allegations have any just foundation. Do not the facts themselves show that his charges and assumptions are not only unkind, but without any real basis? For I am sure that the other members of this Committee would be quite as lenient in their rulings as I have been. In fact I know that it would make no difference whatever to any of them whether the persons vouching for an applicant for a permit are members of the A. O. U., or not, provided they are naturalists of good character, even if only "amateurs" in their special departments of research.

In regard to the general question of the attitude of the A. O. U., towards taxidermists even, to say nothing of young ornithologists who collect bird skins merely for their own cabinets, I would call the attention of Dr. Northrup and those who have his views to a few paragraphs under the head of "Notes and News" in the last (January) number of *The Auk*, where is given a brief report of a discussion of this subject at the last meeting of the A. O. U.

Dr. Northrup at least implies that the system of granting permits for collecting birds for scientific puposes under bird protective laws originated with the A. O. U. On the contrary, this system was in practice in Massachusetts long before the A. O. U. was organized, and even before such an organization was thought of. The power to grant permits was then delegated (as now) to certain designated societies of natural history. One of these societies—the one most active in the matter—at first placed it in the hands of a committeee of three only two of whom were ornithologists (I was one of these, and can therfore speak authoritatively.) Later the granting of permits was placed entirely in the hands of the secretary of the society, who was an eminent *entomologist*, but in no sense an ornithologist. Applicants (then as now) were obliged to furnish a testimonial of their fitness to be entrusted with a permit, signed by a "scientific man," who might or might not be an ornithologist, but could not have been a member of the A. O. U., for no such body then existed.

Finally, in view of the facts and explanations given above, I must claim that Mr. Montague Chamberlain's letter published in the October O. and O., and to which Dr. Northrup's is a reply, fairly states the case as between the O. and O., and the A. O. U., and that the charges he quotes as having been made in previous numbers of this journal are as he characterizes them, not only unjust, but *entirely false*.

J. A. ALLEN.

American Museum Natural History,
New York City, Jan., 4, 1887.

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Bristol County Ornithological Club.

The Bristol County Ornithological Club retain the same role of officers for the ensuing year, viz: Mr. F. M. Merck, of Attleboro, President; Mr. Chas. F. Morrison, of Ft. Lewis, Colorado, Vice-President, Mr. F. W. Andros, Taunton, Mass., Secretary. The executive commttee consists of Messrs. C. H. Andros, Hilton B. Reid and F. H. Carpenter. During the past year one active member has been admitted, and three corresponding added to the list.

The season's work has been satisfactory. Some of the papers presented were the result of much investigation into the fauna of the county. Mr. F. W. Andros gave a very complete list of the birds, which occur within its limits.

Mr. John C. Cahoon presented a detailed paper on the bird migration at Cape Cod. Mr. Carpenter's remarks on his explorations in Maine were instructive. Mr. C. H. Andros gave an elaborate summary of his season's work in the field. "Our Local Raptores," by H. B. Reid, "Order *Limicole* in Bristol County, by H. F. Dexter, and Faunal Changes, by F. H. Carpenter, were the titles of three papers for publication.

The ORNITHOLOGIST and OÖLOGIST was considered to be a proper medium in which to publish such papers as its editor may deem proper.

Publication number 2 of the Club, is a brief paper by Mr. F. H. Carpenter giving the status of the Osprey in the county, issued February 17.

H. F. DEXTER.

APRIL, 1887.

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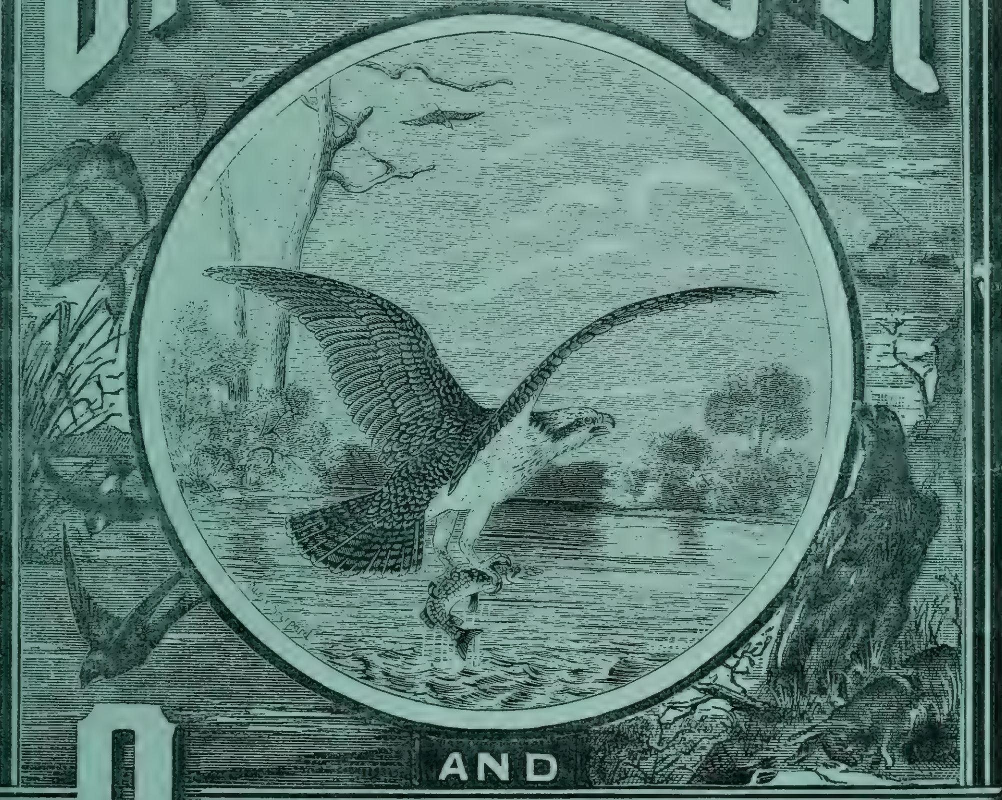

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VOL. XII. BOSTON, MASS., APRIL, 1887. No. 4.

A Collecting Trip in Texas.

BY G. B. BENNERS.

Of all the states I have been in,—and they have been quite a number—the state of Texas seems to me to be the best field for a collector of birds and their eggs. Its immense area and extent give it almost every variety of climate. In the north we find it temperate, with high mountains and a good supply of woodland; in the south and centre it is semi-tropical, arid and barren; and on its short line of Gulf coast, very pleasant and fertile.

In as many different kinds of climate and geographical changes we find birds peculiar to each one. The north abounds in *Raptores*; the south in all species of quail and the like, while the coast furnishes a rare hunting-ground for all kinds of water birds.

There are no strict laws to fine you for every bird you shoot, nor inquisitive people to bother you with silly questions, and as for asking permission to gun on a man's place, you would not have much trouble in that way, for to find that man would probably necessitate a few day's journey.

The best time to go is in the months of March, April and May, which was the period of my trip there in 1884. The height of the collecting season in Texas is the last week in April and the first week in May.

The best localities to visit are Comal County in the North centre; the neighborhood of the Rio Grande River in the south, and Nueces County on the Gulf coast. Every species of bird known in the state can be found in these three places.

Some people in the North have an idea that the birds of Texas are so plentiful, and their nests so accessible, that very little labor is required to get a goodly number of them. Let these same people, however, take a trip through the places above mentioned, and they will find that they will have to work as hard, if not harder, than they would on a like trip through our Northern states. They will have to camp out in an utter wilderness, full of wild animals, and they stand a good chance of being bitten by centipedes, tarantulas, rattlesnakes and other "harmless" things. Besides, the temperature in the south and centre of the state averages 110° in the shade. Pluck and strength, however will be sure to give good results.

In the following paper I propose to give an account of the species I obtained, as well as those I saw.

Mimus polyglottus, Mockingbird. It seemed as though every tree, every bush, and every plant a foot high, contained a bird or a nest of this species. From Arkansas to the Rio Grande I found them in the greatest abundance, and was often deceived by the power they possess of imitating the notes of other birds. I have heard them give to perfection the call of the Chaparral Cock, (*Geococcyx californianus*) and I remember shooting a mockingbird in a dense thicket by mistake for a Scissor-tailed Flycatcher, (*Milvulus forficatus*), as I could not see the bird, and it gave the exact *chuck*, *chuck*, of that Flycatcher.

I found their nests in all positions; in live oaks, ten or twelve feet from the ground; in a chaparral bush, at a height of five or six feet; and in small shrubs only a few inches from the grass. They were all built of the same materials—small sticks and roots, with a lining of dried grass, and resembled that of the Brown Thrasher, (*Harporhynchus rufus*). The eggs differed very much in color, running from a dark green ground, with large chestnut blotches, to a very light green, covered with small red specks. One set I found were light blue, with only a few brown spots at the larger end.

Galeoscoptes carolinensis, Catbird. Strange as it may seem to us of the North, with whom this bird is so plentiful, I only saw one specimen west of the Mississippi river. That was

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brought me by my guide, while at Corpus Christi. He thought it was a rare bird, as it was the first he had ever seen. He also thought it very handsome and wanted to know what species it was.

Harporhynchus curvirostris, Curve-bill Thrasher. The only place where I saw this bird and its nest was near the town of Laredo, on the Rio Grande. We were on our way back to town, after a good day's work, when, on the edge of the river bank, in an old live oak tree, we noticed a hole such as is made by a woodpecker, out of which was thrust the head of a bird. On our approach it flew out, and one of our party shot it, when we found that it was a Curve-bill. The nest contained four eggs, of a light blue, thickly covered with reddish-brown specks, and it was composed of dry grass, lined with feathers. This cannot be regarded as other than a most unusual place for the nesting of this species. It was the only specimen we saw.

Polioptila cærulea, Blue-gray Gnatcatcher. Only a few of these birds were noticed in Comal County; where we found several nests, generally situated in live oak trees, about ten or fifteen feet from the ground. The nests were of the usual beautifully constructed pattern, and the eggs four in number.

Lophophanes bicolor, Tufted Titmouse. Very abundant, principally in Comal County. They nested in holes in trees, and the eggs were from four to five. One nest that I found was in such a small hole that I had to procure a hatchet to enlarge it, and while away for that purpose the bird broke the eggs. I have been told by residents of Comal County, that this is a common habit of this species, and if they have not the means of enlarging the hole with them when they find the nest, the men close up the entrance with grass until they return, as otherwise the birds will break the eggs.

Lophophanes atrocristatus, Black-crested Titmouse. We saw numbers of this species, but did not find them nesting. They are shy and difficult to approach.

Parus carolinensis, Carolina Chickadee. Two birds of this species were observed in Comal County.

Campylorhynchus brunneicapillus. Cactus Wren. Very few of these birds were noticed. We secured three specimens at Laredo, where we found their nests in the prickly pear. They were from twelve to fifteen inches long, and about six inches in diameter, with a very small opening at the end, which did not seem large enough to admit the bird. They were made of dried grass, lined with feathers. Only one of the nests contained eggs, which were six in number.

Catherpes mexicanus conspersus, White-throated Wren. Rather scarce, but I saw four birds in Comal County, where I found a nest on the rocky side of a dried river bed. This was on April 10th. The nest was composed of porcupine hair, and lined with feathers of the Cardinal and Texas Quail. It was very shallow and flat, and contained five eggs. They measure .73 x .55; .74 x .55; .70 x .55; .73 x .55 and .72 x .56.

Thryothorus ludovicianus, Carolina Wren. Very abundant; breeding in the neighborhood of houses in the central part of the state, and on the coast. The largest set found contained six eggs. This nest was under the roots of a live oak tree, blown over on its side by the wind. It was composed of chicken feathers, and lined with down.

Thryomanes bewicki leucogaster, Texan Bewick's Wren. The commonest wren in the state. We found them breeding in holes in trees, as well as in boxes put up for the purpose, and one bird had chosen an old nest of the Cactus Wren in which to deposit its eggs, after adding a few feathers. The nest is composed of horse hair, lined with feathers. One beautiful one that I found was made entirely of feathers of the Chaparral Cock (*Geococcyx californianus*). Six to seven eggs seemed to be the usual number, but one set I heard of contained nine. Their ground color is white, with small reddish specks, generally forming an indistinct wreath around the larger end. They do not exhibit much variation. A set of seven measure .65 x .52; .65 x .50; .64 x .52; .63 x .51; .65 x .52; .62 x .51 and .65 x .52.

Telmatodytes palustris, Long-billed Marsh Wren. We saw several birds in Nueces County and examined several nests, but the latter were all empty at the period that we were there. The guide informed me that they bred in large quantities in that locality.

Mniotilta varia, Black and white Creeper. A single specimen of this species was shot at Corpus Christi on May 1st, during its northward migration.

Helminthophaga pinus, Blue-winged Yellow Warbler. Also secured at Corpus Christi on May 1st, during its migration.

Helminthophaga ruficapilla, Nashville Warbler. A specimen secured at Corpus Christi on May 1st.

Parula americana, Blue Yellow-backed Warbler. We saw several of these birds in Comal County, and one of my companions found one of their nests in the hanging Spanish moss. It contained three eggs.

Dendrœca æstiva, Summer Yellow Bird. A specimen shot at Corpus Christi on May 1st.

Dendrœca coronata, Yellow-rump Warbler. Shot at Corpus Christi on May 1st.

Dendrœca pennsylvanica, Chestnut-sided Warbler. Found at Corpus Christi on May 1st. All of the above warblers were on their northward migration, except the Blue Yellow-back.

Dendrœca dominica, Yellow-throated Warbler. I saw several of these beautiful birds, and shot one of them. They are said to breed in Comal County, in the Spanish Moss, near the ground.

Dendrœca chrysoparia, Golden-cheeked Warbler. This beautiful species is one of the really rare birds of the United States, being apparently confined to an area of about ten square miles in Comal County. This region is very sterile and barren, and the only trees are stunted Live Oaks and Red Cedars. During my visit I saw only ten birds, and I frequently went in search of them. They stayed at the tops of the trees and appeared to be very shy. The first one I saw I took for a Black-throated Green Warbler (*Dendrœca virens*), to which it bears a close resemblance. I was too near the bird when I fired, and the shot riddled it almost to pieces. That was the only specimen I got that day, and on bringing it home one of my companions pronounced it to be the rare Golden-cheeked Warbler, and abused me roundly for not taking more care in securing it. The next day we were out in full force in that neighborhood, with eight guns; and again I was the lucky one, as I secured the only birds of this species shot that day. I saw one of them in the top of a Red Cedar, about twenty feet up, which I was about to fire at, when my guide advised me to watch it first, as it would probably go to its nest. This I did, and after about an hour's chase, I saw it settle down on its nest. This was on April 17th. The nest was about ten feet from the ground, in a Red Cedar. It was about half way out on a branch, and was composed of strips of the bark of the cedar tree, lined with feathers and down. It was very neatly and compactly built, and measured two and a half inches in diameter on the outside, by two inches in depth. The inside diameter was one and a half inches.

The bird flew off the nest and stayed near by, when I shot it, and it proved to be a female. The eggs were four in number, of a whitish ground color, thickly covered with faint reddish dots, heavier at the larger end. They were fresh, and measured .68 x .52; .67 x .52; .67 x .50, and .66 x .52. The guide, by imitating the call of the female, lured the male to us, and we secured it. When we got home I found that these were the only specimens of this warbler shot by any of the party that day.

The next day, April 18th, another nest was found by one of my companions, in a like situation, which the guide informed me was the usual nesting place chosen by this species. This nest also contained four eggs, similar in general appearance to the set found on the preceding day. I shot the parents of this set, and on our way home shot two others.

On April 22nd I secured another set of eggs and the parent birds. The nest was quite low down, being only about five feet from the ground, on a small cedar. It was the prettiest one we found, being unusually deep. It contained four eggs, heavily marked for this species. They measure .68 x .50; .68 x .52; .64 x .50, and .68 x .50.

The above three nests were all that our party found during our stay, but I shot four more birds.

Siurus nævius, Small-billed Water Thrush. On May 18th, at Padre Island, in the Gulf of Mexico, I saw one specimen of this species in a small clump of bushes, which was the only vegetation in sight.

Siurus motacilla, Large-billed Water Thrush. On May 14th I saw a single bird of this species at Corpus Christi.

Vireo atricapillus, Black-capped Vireo. The top of one of the highest of the Guadaloupe Mountains, in central Texas, is where I first saw this bird. We were riding over a sort of natural bridge connecting two of the loftiest peaks, and called the "Devil's Backbone." It is one of the most sterile spots I ever saw. The "Backbone" was nothing but stratum upon stratum of rocks, and reminded one of a high railroad bank. The valley on either side was called "Purgatory." The vegetation was very scanty and consisted of clumps of thorn bushes which clung to the steep sides of the mountains.

In such a place, and with the temperature at 120°, we never thought of looking for such a thing as a bird, and were riding along listening to the Texas yarns of our guide, when suddenly we saw something moving in some bushes by the road. Thinking it must be a strange bird indeed that would be in motion at such a time and place, we sprang to the ground and proceeded to hunt it up. Although the clump of bushes could not have been more than twenty feet square, nevertheless, we hunted and tramped all through it, and wasted a great many adjectives for nearly an hour, and were just about to give it up, when suddenly up popped the bird from under our very feet, and flew to some more bushes a short distance off. This time we marked him and all four of us surrounded his hiding place. We soon got him and what was our delight to discover that it was a Black-capped Vireo! That was one of the special birds we came to Texas for, and here it was at last!

After continuing for some distance, we found a nest of this species. It was built in a fork of a twig of a live oak tree, and resembled very much the nest of the White-eyed Vireo, (*Vireo noveboracensis*). It was constructed of strips of bark, lined with coarse fibres of hemp and flax, and was cup-shaped, like all the nests of the vireos. It measured one and a half inches deep outside. The outside diameter was two inches, and that of the inside one and three-quarters. The eggs, four in number, were pure white, and entirely unspotted. They closely resemble those of the Barn Swallow, (*Hirundo erythrogastra*) and measure .71 x .55; .72 x .55; .71 x .53, and .67 x .49.

The note of this bird resembles that of the White-eyed Vireo. They are extremely shy and hard to shoot and in their motions resemble the Winter Wren, (*Anorthura troglodytes hyemalis*)dodging in and out among the bushes.

I secured four more birds before we left, and altogether about eleven specimens were taken by the party.

Vireo belli, Bell's Vireo. We saw two birds of this species in Comal County.

(To be Continued.)

Bryant's "Additions to the Ornithology of Guadalupe Island."

BY J. P. N.

Under the above title Mr. Walter E. Bryant recently read a most interesting and valuable paper before the California Academy of Science, which has been published in the Sixth Bulletin of that Institution, and a synopsis of which is given below.

In 1875 Dr. Edwin Palmer visited the island and procured seventy-two specimens, embracing eight species of land birds and one water bird, for the National Museum. These were described by Mr. Robert Ridgway in Bulletin Hayden's Survey, 1876, No. 2. Mr. Bryant has twice visited the island, in January, 1885, and in December of the same year. The latter visit was quite an extended one, occupying as it did nearly four months. He describes it as extremely difficult of access, and situated two hundred and twenty miles to the Southward and Westward of San Diego. It is about fifteen miles long, and five miles wide at its broadest point, and of volcanic origin. Its highest point is over 4500 feet. The southern portion of the island is rocky and barren, with no trees. Here the vegetation is stunted. To the North there is a decaying forest of pines, while on the Northwestern slope is a large grove of cabbage palms.

Mr. Bryant describes the avifauna as consisting of thirty-five species, of nearly all of which he procured specimens, while of some he collected large series.

1. *Larus occidentalis*, Western Gull. A few birds seen off the shore, and Mr. Bryant thinks that they breed on the island.

2. *Puffinus gavia*, Black-vented Shearwater. One decayed specimen found.

3. *Oceanodroma leucorrhoa*, Leach's Petrel. Abundant. A large series obtained, and also many eggs. Nest in hillside, and burrow extending from one to three feet; at the end of this, on a few pine needles, Mr. Bryant found the single egg always laid by Petrels. Average measurement of fifty eggs taken March 4th and 5th is 35.7 x 27 millimeters.

4. *Anser albifons gambeli*, American White-fronted Goose. One specimen shot.

5. *Buteo borealis calurus*, Western Red-tail. Resident, but extremely wary, and only one specimen, an adult male obtained.

6. *Polyborus lutosus*, Gaudalupe Caracara. Common, ten specimens obtained. "By the latter part of April," Mr. Bryant writes, "the birds had apparently not paired, and I believe that the eggs are not laid until the latter part of May or June. The Mexicans said that a cliff was always chosen for a nesting place, thus making their nests difficult to find, and still more difficult of access. This being the case, I fear the eggs will long remain unknown."

8. *Speotyto cunicularia hypogæa*, Burrowing Owl. A single pair seen.

9. *Colaptes rufipileus*, Guadalupe Flicker. Not rare, but restricted in area to the cypress grove. Ten birds taken, and on April 7th a set of six fresh eggs. They were deposited at the bottom of a hole in a decayed tree, at a depth of twenty inches. "They correspond exactly," Mr. Bryant says, "both in color and general shape, with scores of other eggs of this genus, and offer the following measurements in millimeters: 28 x 22; 28 x 22; 28 x 22.5; 29 x 22; 29.5 x 22; 29.5 x 22."

10. *Micropus melanoleucus.* White-throated Swift. A flock of about fifty observed Jan. 12th, and again on Jan. 21st. Mr. Bryant seems to think they breed on the island. Two females obtained.

11. *Trochilus anna*, Anna's Hummingbird. Three specimens obtained.

12. *Sturnella magna neglecta*, Western Meadow Lark. One bird observed.

13. *Carpodacus amplus*, Guadalupe House Finch. Large series obtained. Two nests found in cypress trees Feb. 22nd. Set of five eggs March 1st. Last nest taken April 7th, with five eggs, containing small embryos. The nest, was nearly always in the branch of a cypress tree, but some were in the tops of palms. The most common height from the ground was from ten to fifteen feet. Mr. Bryant thus describes the nests and eggs:

"The material used for the outer structure of the nests consisted of the dark, dead stems of weeds, only the finer ones being selected. One nest found in a pine tree, had the foundation and sides made of pine needles, with the invariable lining of goat's hair, black or white being used indiscriminately. The external diameter of the nest is about 130 mm., with a central cavity of about 65 mm. "The eggs, sometimes four in number, but oftener five during the early part of the season, are colored precisely like the average specimens of *C. frontalis rhodocolpus*, the spots being either sparingly applied or entirely wanting. They also resemble them in general shape, but the size serves to distinguish them. The five eggs of set No. 792, measure respectively 22 x 15; 22 x 15.5; 22 x 15.5; 23 x 15.5; 23 x 16.5 mm. The length measurement varies from 19.5–24 mm., and width 15–16.5 mm. The average of thirty-two specimens is 21.3 x 15.5 mm."

14. *Loxia curvirostra strictlandi*, Mexican Crossbill. Nine specimens obtained.

15. *Zonotrichia coronata*, Golden-crowned Sparrow. Three females secured.

16. *Spizella socialis arizonæ*, Western Chipping Sparrow. A single specimen, a male taken.

17. *Junco hyemalis oregonus*, Oregon Junco. One specimen taken.

18. *Junco insularis*, Guadalupe Junco. Large series collected. On March 10th Mr. Bryant found a nest of this species, and on the 16th it contained three eggs. It was in the cleft of a pine tree, six feet from the ground, and was composed "of a few pieces of bark-moss, light-colored dry grass blades, and a tail feather of a Petrel, all surrounding a quantity of grass blades, lined within with goat's hair. The three eggs which the nest contained (set No. 797, Author's Oölogical Collection) were probably a second setting, the ragged appearance of the female's plumage indicating previous cares. In color the eggs are a pale greenish-white, marked with fine dots of reddish-brown clustered around the larger end. They measure 19.5 x 15; 10 x 15.5; 20 x 16 millimeters."

19. *Melospiza lincolni*, Lincoln's Sparrow. One pair secured.

20. *Passerella iliaca unalaschensis*, Townsend's Sparrow. One specimen taken.

21. *Pipilo consobrinus*, Guadalupe Towhee. Large series secured.

22. *Ampelis cedrorum*, Cedar Waxwing. One male taken.

23. *Lanius ludovicianus excubitorides*, White rumped Shrike. Two specimens secured.

24. *Dendroica auduboni*, Audubon's Warbler. Two males of this species were taken.

25. *Anthus pennsylvanicus*, American Pipit. One flock of about twenty-five seen, of which a single specimen was secured.

26. *Oroscoptes montanus*, Sage Thrasher. One male was shot.

27. *Mimus polyglottos*, Mocking Bird. A single specimen taken.

28. *Salpincees guadaloupensis*, Guadalupe Rock Wren. The most abundant species on the island, and a large series taken. Mr. Bryant's notes concerning the nesting of this species are very full. Some of these birds commenced constructing their nests as early as December 25th, though the regular breeding season is from the middle of January until the end of March. The "nests were found in cavities of imense boulders, under rocks, in fallen and decayed trunks of trees, the latter location being apparently a favorite one. But whereever the nests were located the passages leading to them were, with one or two exceptions, paved with flat pebbles ranging in size from a Lima bean to a half dollar. Fully a quart of these pebbles were removed from the entrance to a nest built in a boulder at a height of four feet, where, at some previous time, other birds had evidently built and contributed their share of the pavement. As a rule scarcely an ordinary handful of stones are used. The nest is built in close conformity to the size and shape of the cavity which it occupies, being usually circular and varying from a shallow bed of fine dry grasses to a nest of the same material measuring 150 mm. in diameter and 60 mm. high. The egg receptacle is from 55 mm. to 70 mm. in diameter, and not more than 30 mm. in depth.

A lining of goat hair when obtainable is invariably used. I followed one bird fully an hundred yards from the spot where she had collected some goat hair before the nest was reached.

The eggs are usually four, though sometimes five in number, and resemble both in color and shape those of the common Rock Wren (*S. obsoletus.*).

Set No. 781 (Author's Oölogical Collection) measures: 17 x 14; 17 x 14.5; 18 x 14.5; 18.5 x 14.5 mm.

Set No. 782 (Author's Oölogical Collection) offers the following measurements in millimeters: 19 x 14; 19 x 14; 19.5 x 14.5; 19.5 x 24.5; 19.5 x 15.

The average size ascertained from a series of fifty-five eggs, is 19 x 14 mm. The two largest eggs measure 21 x 15 mm. and 20 x 16 mm. respectively; the two smallest, 17 x 14 mm."

29. *Thryothorus brevicaudus*, Guadalupe Wren. Seven birds secured, but Mr. Bryant was unable to find the nest. Eggs unknown.

30. *Sitta canadensis*, Red-breasted Nuthatch. Tolerably common.

31. *Regulus obscurus*, Dusky Kinglet. Large series of birds obtained. They were observed building their nests by the middle of February, and Mr. Bryant found three of them in the tops of the cypress trees. "They were placed in the midst of a thick bunch of foliage, and but lightly secured to the twigs. Compact, though not very smooth in structure, they were composed of soft strips of bark intermingled with feathers, bits of moss, fine grass and cocoons. Additional warmth is secured by a quantity either of goat's hair or feathers, and, lastly, a thin lining of goat's hair. * * * * In color the eggs are white, with a dense wreath of pale yellowish-brown spots encircling the larger end. In some places, these spots appear to be laid over a pale lavender washing, and in one specimen, these fine, almost indistinct dots extend sparingly over the entire surface. They measure in millimeters 14 x 11 and 15 x 11."

31. *Turdus aonalaschkæ*, Dwarf Hermit Thrush. Three specimens taken.

33. *Merula migratoria propinqua*, Western Robin. Three birds shot.

34. *Hesperocichla nævia*, Varied Thrush. One specimen seen and secured.

35. *Sialia artica*, Mountain Bluebird. Three seen and one secured.

The above synopsis will give some idea of the value of Mr. Bryant's paper. Of the rarer species of birds full measurements are given, and many interesting facts concerning their habits are related in charming language, which, while accurate enough to be of scientific value, is never dry. Too much praise cannot be given Mr. Bryant for his efforts to make the ornithology and oölogy of this little island better known.

A List of the Birds of Fulton County, Kentucky.

BY L. O. PINDAR, HICKMAN, KY.

This list includes all the birds of whose occurrence in Fulton County I have good authority for, and those I have personally identified up to Dec. 15, 1886. The nomenclature is that of the A. O. U., code. The numbers following the names are those used by Ridgway in his check list.

Podylimbus podiceps. Pied Billed Grebe. (735.) Although it does not seem proper perhaps, to begin a list with a bird which, I must confess I never had the opportunity of seeing, I have such good authority for the occurence of the "Devil dives" in this locality that I must not leave it out. It is said by all the hunters to be common during the migration, and I have no doubt of the fact, as this place is in its range as given by Coues and the new A. O. U., code.

Larus argentatus smithsonianus. Am. Herring gull. (666a.) Seen irregularly through the winter. At times common, then not seen for a month or two or longer. I have only seen it once this fall.

Anhinga anhinga. Anhinga. Water Turkey. (649.) Two were seen flying north August 18, 1886.

Pelecanus erythrorhynchos. Am. White Pelican. (640.) Mr. A. J. Taylor informed me that one was captured a short distance below Hickman two or three years ago. Mr. Harry Millet also saw several on Island No. 6, opposite Hickman in June 1886.

Merganser——? or *Lophodytes*——? Prof. Caldwell formerly of this place and much interested in ornithology gave me a list of birds of this section when I commenced my ornithological studies and mentioned therein the "Fish Duck," but as that is the common name for all three varieties I do not know which he referred to.

Anas boschas. Mallard. (601.) Common winter resident.

Anas obscura. Black duck. (602.) One seen in town in December 1885.

Anas carolinensis. Green-winged Teal. (612.) Several seen for sale in town November 30, 1886.

Anas discors. Blue-winged Teal. (609.) Given by Prof. Caldwell as a visitant. He did not say whether it was common or not.

Dafila acuta. Pintail teal. (505.) Another winter visitant according to Prof. Caldwell, who says it is common.

Aix sponsa. Wood-duck. Summer duck. (613.) Common resident.

Aythya americana. Red head. (618.) Mr. A. J. Taylor says he has heard of two being killed on the lake.

Aythya vallisneria. Canvas back. (617.) Sevreal seen for sale in the winter of 1884-85.

Charitonetta albeola. Buffle-head. (521.) One seen in the Bayou Nov. 7, 1886. Said to be common on the Lake.

Branta canadensis. Canada or Wild Goose. (594.) Resident. Very common in winter. Less so in summer. See Auk, Vol. III. No. 4. Page 481.

Olor———? I saw two swans flying down the Mississippi river in December 1885, but could not identify exact species.

Botaurus lentiginosus. Am. Bittern. Prof. Caldwell gives it as an uncommon resident.

Ardea herodias. Great Blue Heron. (487.) I saw eight a short distance up the river on September 30, 1886.

Ardea egretta. Am. Egret. (489.) In 1885 I saw the tail feathers of one. The boy who showed it to me said his "Big brother had killed it."

Grus americana. Whooping Crane. (582.) One seen flying over town to the north Aug. 20, 1886.

Fulica americana. American Coot. (580.) Said to be a very common resident.

Philohela minor. Am. Woodcock. (525.) Given by Prof. Caldwell as a new resident.

Gallinago delicata. Wilson's Snipe. (526a.) Common in spring.

Colinus virginianus. Bobwhite. Partridge. Quail. (480.) A common resident.

Meleagris gallopavo. Wild Turkey. (470.) Often seen for sale but I have never seen this king of all game birds alive.

Ectopistes migratorious. Passenger Pigeon. (459.) Migrant. Not as common as formerly.

Zenaidura macrousa. Mourning Dove. (460.) Common resident. Gregarious except in the building season.

Cathartes aura. Turkey Buzzard (454.) Common resident.

Catharista atrata. Black Vulture. Carrion Crow. (455.) Rare. I have seen it, I think, four times this year (1886.)

Elanoides forficatus. Swallow-tailed Kite. I have never seen this bird in Kentucky, but saw eight or nine at Woodland Mills, Tenn., about two miles from the state line, August 9, 1886.

Ictinia mississippiensis. Mississispi Kite. Blue Darter. (428.) One seen one mile below Hickman, Aug. 13, 1886. It was flying south. Three or four more noticed sailing over the same place next day.

Circus hudsonius. Marsh Hawk. (430.) Not common.

Accipiter velox. Sharp-shinned Hawk. (432.) Common resident.

Accipiter cooperi. Cooper's Hawk. (431.) Common resident.

Accipiter atricapillus. American Goshawk. (433.) I am certain I saw one Nov. 11, 1886, but as this region is not in its range and I did not procure it there is some, though very, very little doubt about its identity.

Buteo borealis. Red-tailed Hawk. (436.) Common resident.

Buteo lineatus. Red-shouldered Hawk. (439.) One seen near the Court house Sept. 30, 1886.

Haliætus leucocephalus. Bald Eagle. (451.) Two seen flying over the Mississippi river, Jan. 19, 1887.

Falco columbarius. Pigeon Hawk. (417.) One flew over our house and through the orchard, Nov. 4, 1886.

Falco sparverius. Am. Sparrow Hawk. (420 420a.) Common resident.

Pandion haliaetus carolinensis. Am. Osprey, Fish-hawk. (425.) Said to breed on Reelfoot Lake.

Strix pratincola. Am. Barn Owl. (394.) Prof. Caldwell gives it as an uncommon resident.

Syrium nebulosum. Barred Owl. (397.) I judge this to be the owl which Mr. A. J. Taylor described as common in the deep woods near Reelfoot Lake.

Megascops asio. Screech Owl. (402.) Common. I caught one and kept it in confinement for a week, when it escaped.

Bubo virginianus. Great Horned Owl. (405.) Resident. Have seen several near Hickman and one near Lodgton in the same county.

(NOTE. Although this is a list of Fulton County birds it may not be out of place to state that the Hickman *Courier* gave notice of the capture of a Snowy Owl in Simpson County, Ky.

(To be Continued.)

THE
ORNITHOLOGIST
AND
OÖLOGIST.
A MONTHLY MAGAZINE OF
NATURAL HISTORY,
ESPECIALLY DEVOTED TO THE STUDY OF
BIRDS,
THEIR NESTS AND EGGS.
DESIGNED AS A MEANS FOR THE INTERCHANGE OF NOTES AND OBSERVATIONS ON BIRD AND INSECT LIFE.

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Nesting of the Saw Whet Owl.

BY EGBERT BAGG, UTICA, N. Y.

Regarding the breeding of the Saw Whet Owl, (*Nyctale acadica*) but little has been recorded. Up to the time of Baird, Brewer and Ridgway's great work, the nest of young birds found by Audubon near Natchez, and that with eggs, (of which a single specimen was preserved in the Smithsonian Institution,) taken by Mr. R. Christ, at Nazareth, Pa., seem to have been all the recorded nests. Since then Mr. W. Perham, of Tyngsboro, Mass., has examined no less than seven nests, mostly in artificially arranged hollows put up for the purpose of attracting the owls, from only one of which he seems to have secured a set of eggs, that belonging to Mr. Wm. Brewster. From some of the others he took young birds, one of which while in the possession of Mr. Brewster, laid a single egg, not fully developed. Mr. N. A. Francis, of Brookline, Mass., records a nest with young birds in an old Heron's nest, which is probably a most unusual location; and finally, Mr. F. H. Carpenter found a nest of young birds at the base of Mt. Kathadin, Maine.

To these few records I have the pleasure of adding four more, and to these five eggs, two sets of seven each; and I can hardly doubt that the particulars of the successful search of the Spring of 1886 will be interesting to the readers of THE ORNITHOLOGIST AND OÖLOGIST.

Dr. Wm. L. Ralph and the writer have for several years had an alliance offensive and desensive in collecting eggs and birds of our neighborhood, and when, during the seasons of 1884 and 1885, the Doctor, who was working at that time from Holland Patent, about twelve miles north of Utica, on the R. W. & O. R. R., found that these little owls were comparatively common in that locality, we determined to make a strong effort to find their nests; and to that end employed a man by the day to patrol the woods and swamps from the first of March, for that particular purpose.

As Dr. Ralph was in the South at the time, the matter was left in my hands, and I had the pleasure and honor of collecting the first full, normal set of eggs of this bird. On the 27th of March, 1886, I received a postal card from our man, stating that he had found a Great-Horned Owl's nest, (*Bubo virginianus*), and I went to Holland Patent to collect the eggs. During the trip the man told me that he had found seven places where the Saw Whets were spending their time; and that on the 12th of March he had found one of these owls in a hole, and had no doubt that she would build there; but that he had visited her on the 25th of March, and that although the bird was still there, he found no signs of nesting. On the 6th of April he wrote me that he had called on her again on the day before, (April 5th) and that there were six eggs in the nest. On April 7th I was at Holland Patent, and although it was about as disagreeable a trip, as regards weather, as I ever made, rubber boots kept the mud and water from my feet, and a rubber coat the rain from my back. It was a hard tramp through the mud and rain, loaded with gun, climbing irons, ropes, etc., but at last we reached our destination, and found, in high and dry woods of hard wood timber, with a few hemlocks scattered among them, and about five rods from the open field, a dead maple stub, and in it at a height of twenty-two feet from the ground, a deserted woodpecker's hole. (This hole had been deserted by its original occupants for at least two seasons, for in 1885 it contained a nest of flying squirrels).

It took several hard blows upon the stub to produce any effect; but suddenly, like a transformation scene in a play, the hole at which I was gazing disappeared, and in its place was the flat face of a little owl, fastened against the side of the stub. That was exactly the effect produced, as the hole was perfectly round, two inches in diameter, and the bird's face exactly filled it. There she sat and no amount of pounding upon the stub produced any further effect, except to make her roll her eyes. My companion therefore fastened on the irons and began to climb the stub, which shook and swayed with his weight, but still the bird did not move until his face was almost on a level with her's; when several threatening motions of his hand at last induced her to fly out and alight on the nearest perch, the horizontal limb of a small hemlock, about a rod from the nest. There she sat, perfectly immovable during the three-quarters of an hour that we spent in examining the nest, and immediately after my companion descended to the ground, she flew back into the hole.

I must not forget to mention one curious fact. When the bird's face first appeared at the hole, I exclaimed: "Why! it is a young bird." The dark face and the white eyebrows were very marked, but immediately upon her alighting upon the branch, in the full light, this entirely disappeared, and her face was the ordinary face of an old bird. Exactly the same effect was noticed with one of the others mentioned further on.

We found the hole to be a foot deep and eight inches in diameter at the bottom. There was no nest except the rotten chips left by the woodpeckers and a few of the owl's feathers—probably accidental. There were seven eggs, pure, dead white, without gloss or polish. They were nearly the same size at each end, and about "oval" in shape, according to Plate xvi., figure 11 of Ridgway's Nomenclature of Colors and Ornithologist's Compendium. They measure as follows: 1.18 x .95; 1.13 x .96; 1.19 x .96; 1.18 x .97; 1.16 x .98; 1.14 x .99 and 1.17 x 1.00. They were variously advanced in incubation, though none of them were very much incubated, showing that the bird had been sitting since she began to lay. The consistency of the albumen was particularly viscid, and the yolk small and light colored.

The other nests were so exactly similar to this one that a short descripion of them is all that is necessary.

The second nest was also found near Holland Patent, on April 21st, 1886, in a woodpecker's hole, in a dead stub, forty feet from the ground, and contained five young birds and one egg, which was just on the point of hatching.

The third nest was taken the same day, near the Trenton Falls of the West Canada Creek, in a woodpecker's hole in a stub, twenty feet from the ground. The hole was nine inches deep and nine inches in diameter at the bottom; and was lined either purposely or accidentally with a few feathers, dry birch leaves, and chips left by the original architects. It contained seven eggs, exactly similar to the first set, and measuring as follows: 1.18 x .97; 1.18 x .98; 1.24 x .98; 1.24 x .98; 1.25 x .98; 1.21 x .99 and 1.23 x 1.00.

The fourth nest was found April 30th, 1886, about one mile north of Gang Mills, Herkimer County, in a deserted woodpecker's hole, in a stub, fifty feet from the ground, in a heavy swamp; and contained seven eggs within a day of hatching.

From this very successful Spring's work, it seems that we are either particularly fortunate in our location for studying the nesting of this bird, or what is more likely, that the nests have not been more often found simply because they have not been systematically and diligently sought for.

With the data furnished in this article I have no doubt some of the readers of THE ORNITHOLOGIST AND OÖLOGIST, if willing to do the hard and disagreeable work of searching the swamps in March and April, will be able to add to the records of the Saw Whet.

The "Shore-bird Migration at Monomoy Island, Cape Cod, Mass., Spring of 1886.

BY JOHN C. CAHOON.

By permission of the Bristol County Ornithological Club.

I arrived on the island May 29th, and found Piping Plover, Arctic, Roseate, Wilson's and Least Tern very common. Among the other birds noted were Spotted Sandpiper, Semi-palmated Plover, Semi-palmated Sandpipers, Savannah Sparrows and Sanderlings. Several large flocks of "Coot" were seen flying over the island; Red-wing Blackbirds and Meadow Larks were common.

May 31, wind north-east; rain fell in the afternoon. One Red-breasted Snipe and twenty Black-bellied Plovers seen; Richardson's Jaegars quite common. June 1st, wind north-east, clear; Sanderlings common. On going down to the sand bars, I noticed several Bonaparte Gulls, while the Herring Gulls were abundant. June 2nd, wind south, cloudy; Black-bellied Plover common. A Brant was shot by a gunner to-day. The bird was not a cripple, and was a late occurrence for this species. Six Laughing Gulls were seen flying very high. June 3rd, rainy; wind south, blowing very fresh, followed on the 4th by clear weather and north-east wind. A single Robin Snipe seen to-day; a few Sanderlings and Black-bellied Plover still remain. June 8th, wind south-west. The weather the day previous was very stormy and brought along to-day several Greater Yellow-legs and Turnstones. Large numbers of Night Herons begin to come on the island at high tide. June 9th, cloudy, wind south-west and blew fresh. Three Robin Snipe and several Bonaparte Gulls observed; Herring Gulls remain in large numbers. June 10th, wind north-east and south. First Least Tern in young plumage seen to-day. June 14th, wind east. First set of Least Tern's eggs found to-day. June 15th, cloudy; a bunch of eleven Black-bellied Plover seen; Herring Gull slightly diminishing in numbers. June 16th, wind east and south-east; thick fog all day. A number of Least Tern found building on the high beach. June 17th, wind south-east and south, rain and fog all day. Thick fog brought in over the meadows quite a number of Wilson's Petrel. Sheldrakes and Jaegars noted. June 18th, wind north-west and weather clear; only two Petrel seen. June 25th, wind south-east, accompanied by light rains. A small flock of Plover still remain on the flats. Arctic Terns, which have not been seen for some time have now become more common. June 26th, wind south-west, clear. Saw a very large Tern, evidently a Caspian or Royal, fly over, but owing to distance could not identify for certainty. June 28th, wind north-east. A Robin Snipe, adult female, was shot out of a bunch of three; a very late occurrence. June 30th, wind north-east and south-east, clear. Not any of the *Limcole* noticed to-day; Herring Gulls still remain in numbers.

The preceding notes only comprise the latter part of the migration as the height of the movement transpires between the first and middle of May. The birds were late this spring and only a few stopped on the island and those for only a brief time. There was a large flight of Phalarope about the 15th of May, and I was informed by a gunner that they flew back and forth over the island and were so tame that they could be caught alive from a boat. These pretty little swimmers are reported in large numbers by the fishermen who go out many miles from land, who call them "Whale birds." They are seen in large flocks sitting on the water and will allow a boat to approach within a few yards and when they fly it is for a short distance away.

The Pinnated Grouse in Colorado.

BY CHARLES F. MORRISON.

Pinnated Grouse, (*C. cupido.*) Not abundant at this altitude but occurs in limited numbers and breeds. Its western progress has not been very definitely defined of late years. In Wyoming I found it in countless numbers at the foot of the Big Horn Mountains, and here in Colorado it occurs as above on the western side of the Rockies, it is also reported in large numbers to the south along the state line of New Mexico and Colorado. I am informed it has only appeared here in the past three years, and I can but feel sorry to see the way these birds are killed off, have seen a ranchman kill twelve without moving from his tracks, and this in August when the law was on. Birds of this species when hunted much, do not tarry long at sight of a man, but in isolated districts they are quite tame, and will only flatten themselves on the ground until nearly walked upon, and their color makes it difficult to discover them even when you have them "marked down." I have walked through as many as twenty and my first intimation that they were there would be the *whir*, *whir*, of their wings as they rose and flew off with their *huk*, *huk*, *huk*, to alight some quarter of a mile away. There is considerable satisfaction in obtaining specimens of this family, first you get skins for your cabinet, and secondly you are assured of a good supper when you return to camp, a thing not to be overlooked, nor lost sight of, when one has been dieting on bacon and dry venison for a few weeks. I never found this bird higher than 9000 feet, it may occur higher in suitable localities, but if so it must descend in severe weather to a lower altitude. In Wyoming it was found up to 8000 feet, where it was replaced by the Dusky or Blue Grouse, (*C. obscura.*) It is a pretty hard sitter and will not leave its nest except at the last moment. Once in Wyoming I lifted the old bird off with my hand, after poking her with a stick for some time without effect, she would simply peck at my stick very much like an old family hen that had been made much of. After I had removed her she flew a few yards away and tried that old trick of feigning lameness. I have seen them do this even when I was in the act of blowing their eggs, which seemed most amusing under the circumstances. I note a great difference in some of their habits here and in the north, there they live upon open prairie in summer, only taking to the undergrowth of the streams for shelter in winter, after the snow has covered its summer feeding grounds. Here owing to the nature of the country, they are obliged to live continually in the scrub oak of the mesas, nor do they in winter frequent the stream bottoms, the snow water is good enough for them and the scrub oak furnishes plenty of shelter, besides many acorns on which they subsist until heavy snows, when the leaves of various bushes with small twigs and grass-seed supply them until the snow thaws. It takes a good wing shot to drop one of these birds, but they are very tender and fall at a touch of number eight or ten shot.

The Number of Eggs Laid by The Great Horned Owl.

BY CHARLES F. MORRISON, FORT LEWIS, COL.

It has been with some amusement that I have read, from time to time, the statements of some writers in the ORNITHOLOGIST AND OÖLOGIST as to the number of eggs in a clutch of the Great Horned Owl, (*Bubo virginianus*). On page 11 of Vol. 11, I find this statement: "Thus the Great Horned Owl is said * * * * to lay from three to six eggs, *while the real number is only two or three.*" To me, this idea of any one saying that the "Hooter" *shall not* lay more than three eggs is simply ridiculous, and would be to any collector that had spent years in the field in all parts of the United States and British America. Such statements should only come from closet oölogists whose field work has been limited to certain localities.

That this bird lays but two or three eggs as a rule, I will admit; and in the states east of the Mississippi River and along the Pacific coast, evidently does lay but that number; but, in the northern range of the Rocky Mountains and its numerous spurs, it deposits from *two to six* eggs. I make this statement from six year's experience in that section. The first nest of this species I ever found was in 1880, on the North Platte River, one mile north of Fort Laramie, Wyoming Ter.; contained six eggs, and on the same day, and one mile up the river, I found another nest containing four eggs. A few days later I found, down the river, two nests from which I took nine eggs; one set of five, and one of four.

During my collecting trip through Wyoming, Southern Montana, Western Nebraska, portions of Utah and Idaho, I found but one nest of two eggs, which was less than a mile from Fort McKinney, Wyoming, on Clear Creek, and near the foot hills of the Horn Mountains. This nest was empty but I secured two young birds from the lower limbs of a small tree not twenty yards from the nest. This was on May 28th, 1884, rather a late date for this bird.

During the winter of 1885–86 I happened to be travelling over a larger part of the United States, and on March 1886, I found myself at Hannable, Mo., where I took two sets of two eggs each. These are the only sets of two eggs now in my collection which I secured myself. I was never so fortunate as to find this bird in New England and my Hannable sets are my most Eastern finds. I was therefore much surprised at the several statements in the ORNITHOLOGIST AND OÖLOGIST, and being asked by a personal friend of mine who knew my experience differed, to give my side of the story, I turned over my old note books with the above results.

Now, why can't we look deeper into these things, and see if the "Hooter" does not come under influences in different localities which change its breeding habits as well as its plumage. If the plumage and song of birds are changed, why might not this affect their egg laying to some extent? Ornithology is yet in its infancy, notwithstanding the long strides made in the past ten years.

As for others of our *Raptores* I am not at present able to speak, but I think that time will show that more eggs are laid to a clutch in some species. I shall devote the coming season to *Raptores* especially, and will make the result known. In the meantime I invite correspondence as regards *B. virginiarus*, and would be especially pleased to hear from collectors from the North River region upon this subject. No one man can learn all, it is only by many working and comparing results that the truth is brought to light.

Some New Birds For Texas.

BY WILLIAM LLOYD, PAINT ROCK, TEXAS.

On the 20th of August, 1886, the long expected storm had come at last. A pouring rain from East and North-east, continuing about eighteen hours, had relieved the parched look of the prairies in Concho County, and covered them with verdure.

Several gulls were seen flying across the country, though none were taken, and a considerable number of Black Tern, (*Hydrochelidon* *l. surinamensis*). The latter frequented a broad sheet of water in Kickapoo Creek, skimming over the surface catching minnow, and occasionally making flights over the neighboring prairie after grass-hoppers. They remained in the neighborhood several days and here were secured by Mr. J. H. Loomis, who identified them, and on the following day I shot four more. The Upland Plover, (*Bartramia longicauda*) were now numerous, though generally in poor condition, and on the afternoon of August 31st, a party consisting of Messrs. John H. and Chester Loomis, Mr. Ridge Goodrum and myself drove out in a buggy to look for a large flock of Long-billed Curlew, seen in the vicinity a day or two previous.

Some two dozen Upland Plover were rapidly secured, and the birds hardly moved as we would drive within twenty or thirty steps of them, often rising only to settle down again about twenty steps further on, and, as it grew later, we suddenly drove nearly over a flock of Mountain Plover, (*Podasocys montanus*) securing a goodly quantity. By a lucky shot into a second flock of the latter Plover, Mr. Goodrum secured one of them and also a fine Sandpiper, which on inspection proved to be the Buff-headed Sandpiper, (*Tryngetes rufescens*); its first occurrence in this locality, if not in Texas. Returning home, Mr. Chester Loomis, by another fortunate shot, secured what proved to be a second ornithological prize—a Black-bellied Plover, (*Squatarola helvetica.*) This also is the first record for this locality and also for Texas. A Greater Yellow Legs, (*Totanus melanoleucus*) and a Lesser Yellow Legs, (*T. flavipes*) were also taken, but no Curlew were observed, except two flying over. The sun was setting so they were unmolested, and pausing to take in a Chapparal Cock, (*Geococcyx californianus*) we returned home, seeing a Badger making his way into a prairie dog hole as we passed close by.

Numbers of Antelope were noticed. They are untouched on this ranche, so are very gentle. No Ducks were seen, though Teal had been here a week, and no Quail; the latter hunting the sugar cane fields. Doves were numerous in the swags and we might have taken treble the number of Plover shot but refrained. Other Sandpipers seen were the Solitary, the Spotted and a number of Least or Semi-palmated Sandpiper, while the ubiquitous Killdeer was everywhere.

On our return we compared the Black-bellied Plover with a fine Golden Plover, shot last April, and made about one dozen skins, including two Redstarts, (*S. ruticilla*) shot in morning; ending a very pleasant day and making two valuable additions to Mr. J. H. Loomis' collection of Texas birds.

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The Evening Grosbeak in Minnesota.

BY GEO. G. CANTWELL, MINNEAPOLIS, MINN.

This beautiful bird, peculiar to the Northwest, is the largest and handsomest of its race. They are the brightest of our northern visitors, arriving in this locality about the first of January when cold weather sets in, and may be seen in flocks of from ten to thirty almost any day, feeding on the seeds of the maple. At this time of the year the males greatly outnumber the females, while in the spring the females predominate and scarcely a male can be found.

The bright old male as he sits in the top of a tree on a bright day appears to be a lump of shining gold, but as soon as killed, they seem to lose their lustre, although he is still a beauty; the snow-white secondary quills contrasting with his bright yellow and shining black dress. The female is more modestly attired, partaking of the general color of the male, but much paler and with a brownish tinge, and lacking the white on the wings. Both have extremely large bills of a greenish yellow. They are very unwary birds, allowing a person to approach within a few feet of them.

Those taken in the woods are always bright and clean, while those of the city are very dark colored. I have come to the conclusion that they spend the cold nights on chimney-tops and in that way get their plumage soiled with smoke and coal dust.

The males leave us about the middle of April, and at the same time quantities of females put in an appearance. I am unable to say whether they arrive from the South, or if they are all the females left behind by the males. The latter seems the most probable, but there are many more females than there were in the winter, so some must come from some other place. They stay in the woods altogether, feeding on the young buds of different trees and grow very fat.

They leave about the first week in May for the North, where they lay their eggs and rear their young undisturbed. I do not believe they pass through this section in the Fall, as I have never seen a single individual at that time.

My Holiday.

BY WALTER HOXIE.

Christmas was truly a red letter day for me. I was off and away in the woods once more. No hissing of steam and madly pulsating engine; no chaos of intricate gliding belts and rattling cotton gins, which have been the accompaniments of my daily toil for months. It was a bright cold morning before sunrise. Little films of fog floated along the water and hung about the marsh. As we rowed along in the early light a big flock of Boat-tailed Grackles rose from a distant point and passed high over our heads to their distant feeding grounds.

My companion, who I trust is a future ornithologist, took a "sight" on one but decided that he was too high, then some wary ducks led us a little way from our course, but it was time well spent for I had an opportunity for a short sermon with a Sharp-tailed Finch and a Long-billed Marsh Wren for a text, both clinging to the same long swaying stem. My audience though single was eager and appreciative. Pushing and paddling through some narrow and intricate passages we came out to a big peat, which the flood tide was just beginning to cover. Here I decoyed a tern with a piece of newspaper, and my young friend proved that he possessed one of the essential qualities of the coming ornithologist by collecting him in good style. As the tide rose and covered one by one, all the little detached oyster banks, it was a difficult matter to choose a mark among the variety of birds which were continually passing and alighting within range. Willet, Curlew, Godwits, Sunderlings, "Peeps," Terns and Gulls were in confusing numbers on every side, and neither our larder or cabinet was neglected. R., made the "banner shot" at last when he brought down three Oyster catchers, but I think was sick of his prizes before we had secured them, for they were all wing-tipped and led us a laborious chase. They dove and then flew under water, turning up their gaudy eyes, and avoiding us with exasperating dexterity.

At last we had them aboard and started on our return trip; this was through a part of the marsh which was new to me, but R., proved himself an excellent pilot, and also pointed out all the good spots for marsh birds, the best places for fish, and the hundred and one other choice little secrets that every real live boy delights to impart to the old gray-headed lads who give him an appreciative ear.

The Sense of Smell in the American Vultures.

BY WALTER HOXIE.

In a recent article in *The Auk*, the writer argues that our Vultures possess a highly developed sense of smell. My own observations point to a contrary conclusion and will quote one or two observations.

Last summer an ox died on the road and was hauled into some thick bushes. The cart to which he was attached, was backed in after him and for several days the carcass was thus screened from view, but was fearfully apparent to the dullest nose. Numerous dogs feasted on it, but no vultures came until the cart was removed, when being in plain view through the numerous openings into which it had been dragged, they came in myriads and in a short time nothing was to be seen but the bones. Had the Vultures possessed even a dull sense of smell and known how to use it as a guide to their repast, they would, in my opinion, have discovered their prey three days sooner than they did.

I once raised a pair of young Turkey Vultures. When offered food they manifested great excitement and would tumble awkwardly into the pan in which it was placed. But when the pan was covered up, though full of tempting and odoriferous offal, they maintained their usual dull and sleepy demeanor. I have even placed them upon a newspaper which covered the entrails of a duck without their manifesting the faintest sign of a knowledge of the presence of food in the vicinity.

Now as to their keenness of sight and promptness in discovering their prey by that means.

Last May, I sat in a tent skinning a Black Vulture. In plain view and distant somewhat over half a mile was Buzzard Island, with some forty or fifty of the birds perched upon the tree-tops. As I removed the body and cast it through the entrance of the tent, every broad wing was expanded and the whole flock came hurrying towards the bloody carcass, even before it had ceased to roll along the ground.

The Bluebird as a Mimic.

BY W. E. SAUNDERS, LONDON, ONTARIO.

On March 12th, 1886, while looking for the earliest migrants in a small piece of woods about four miles west of here I saw a Bluebird in a leafless beech, and heard him warble. Immediately before his next warbling I heard a note which appeared to come from beneath the Bluebird, which I took to be that of a Blue Jay. With the intention of making a skin of the Jay I approached, but before seeing him I heard the same note "Kay—Kay" from the same place, and on advancing closer the Bluebird flew away, warbling as he went. As he flew into an open field I saw that he went alone, but just after he reached a tree in the open I heard the same Jay note from that tree followed as before by a fraction of the Bluebird's song. T ostudy the matter, I stayed where I was, and after listening for some time, I found that after the Bluebird had warbled from four to seven times, the next warble would be prefaced with the Jay note that had decieved me. The time taken in uttering this note was deducted from the regular song, but it was made up to the usual length of a Bluebird's song by adding the latter part of its own song, giving the impression that the bird could only take enough breath to sing a certain number of seconds, and if three fifths of that time were taken up by a Jay's note its own song had to be cut off with only the other two fifths.

Considering this as a case of mimicry, it puzzled me considerably why the Bluebird did not give the Jay note alone, or else follow it by its own complete song, and not merely by the end of it. Has any other reader of the O. & O., noticed the Bluebird posing as a mimic?

The Carolina Parrot in Northern Texas.

BY E. C. DAVIS, GAINESVILLE, TEXAS.

Some time since I was informed by a friend, of his seeing a great many Parakeets (*Conurus carolinensis*) in Red River County, some fifty miles east of here, and that they were residents, breeding in large numbers.

As this is the most northerly portion of the State, I concluded he was mistaken; so to confirm his statements, he referred me to Mr. Watson of that county, and to whom I wrote, asking the above; and in reply, I received this answer:—

MR. E. C. DAVIS:

Dear Sir,—Your letter received. In reply have to say, that Mr. Kone is right, there are a great many Parakeets in this section of country. They are exactly like the large green parrot, except smaller, have some yellow about the wings and head. They are very destructive to orchards, and it is almost impossible to keep them away from here in the fall. They roost by holding on with their bills, and are very fond of cockle burrs.

I am told this about their holding by their bills, but we have had them in cages frequently, and they eat cockle burrs, as I have tried them.

Yours, etc.,

S. E. WATSON.

This is a great surprise for me, as I had long since concluded this bird a thing of the past for Texas. But I am very much pleased to still number this species among the birds of North Texas. I shall make a trip myself for the express purpose of investigating this still further early in the spring.

Early Nesting of Anna's Humming-bird.

Mr. Albert M. Ingersoll, of East Oakland, California, reports the finding of a nest and two eggs of Anna's Hummingbird (*Calypte annæ*) on January 14th, 1887. This, it is believed, is the earliest breeding of this species on record. —J. P. N.

Late Appearance of a Golden Plover on Cape Cod.

I shot a Golden Plover November 19th in an old field near Provincetown, Mass. The bird was in young plumage and very poor but was not crippled as it required a heavy charge with No. eight shot to drop him. I have never heard of a Golden Plover being taken as late as this in Massachusetts. They are seldom seen along Cape Cod after the 15th of October.

J. C. CAHOON.

LARGE BROAD-WING HAWK. On September 19th, 1886 a friend sent me a Broad-wing hawk, which I mounted and now have in my cabinet. It is an adult female in fine plumage measuring as follows:—Length 23—50; extent 50; wing 16. Thus showing the same measurements as the Red Tail Hawk. It is the largest specimen I have ever seen.

SAMUEL SPICER,

Goodrich, Mich.

Dr. Wm. DeF. Northrup was at latest advices in Central America and reports some excellent finds in bird-life.

ENTOMOLOGY.

J. A. WRIGHT.
265 No. Beacon St., Brighton, Mass.
ASSOCIATE EDITOR.
Address all communications for this department as above.

Observations on the Cotton Caterpillar.

BY WALTER HOXIE FROGMORE, S. C.

ALETIA XYLINA, SAY.

Last summer the Cotton Caterpillar was fearfully abundant on St. Helen's Island, and my observations, though mainly confirmatory of previously published accounts of its habits, will perhaps be of interest to the readers of the O. AND O.

The first imago observed by me was in May. By the middle of the month the worms were quite abundant in the grass, and from that time till frost were never absent from certain localities. The August brood was the first to do any considerable amount of damage. During the early summer, few if any cotton plants were stripped of their foliage, and in most fields only a small per cent of the leaves exhibited any punctures. The localities visited by these early broods were mainly along the road sides and near grassy spots, thus indicating that their larvæ spread from the grass upon which the eggs had been deposited. After the grass became tough and the rains had induced a rich and tender growth of cotton, the fields received the full attention of the scourge. Localities near hedges, woods and lone trees seemed to be the most exempt. My observations led me to the conclusion that these places received the most attention from the birds. The imagoes were found indiscriminately in all parts of the field, and were probably so abundant that no special selection of suitable spots for depositing could be made. The progeny were too numerous to be held in check by their natural enemies, and only showed a diminution of numbers in the places where their enemies found it the easiest to feed upon them. In one field, for instance, that was nearly denuded of foliage, the plants for a few rods around a small cassina bush were rank and green. A pair of Mocking Birds had a nest in that bush, containing four young, in the callow, "always hungry" stage of existence.

Night Hawks are the most abundant birds in this locality that prey upon the perfect insect. I have in mind several instances in which one of them swooped down and made off with one of the moths, which I, net in hand, was pursuing. The Mantis, among insect foes is a most ravenous feeder. It will frequently drop a half devoured larva to pounce upon another which makes an inadvertent movement hard by.

But all natural enemies are of little avail against an insect scourge, when it has once attained full headway. The Ichneuman flies are probably the most destructive to the full grown larvæ, of all their natural enemies. They, however, do not attain sufficient numbers to alleviate the pest to any great extent. This is due, first, to the fact that the early broods of caterpillars have accomplished most of their destructive work before being attacked by the parasites; and second, that the bulk of the infected worms are eaten by ants and other scavengers, thus keeping down the numbers of the perfect flies, which if matured, might go far toward eradicating the last few broods. I am forced to believe that for a relief from insect pests of this nature, man must rely upon his own agency.

◆

Substitute Food-Plants.

BY PAUL REVERE.

The breeder of lepidopterous larvæ frequently finds himself puzzled by circumstances over which he has no control. He has larvæ either from eggs imported from some distant state or country, or captured upon a plant in a district, which is scarce in the place where he resides. It is then that a knowledge of botany, works to the advantage of the breeder; and, by the way, a good book on the subject, giving all the allied plants in families, and kept for ready reference, a standard work upon botany, tides the entomologist over many an uncertain place.

Many of the moths bred by amateurs in New England are general feeders, and the plants which the larvæ brouse upon are often nonallied. The foliage of the plants enumerated below may be used for the rearing of the moths named:

Samia cecropia, wild and cultivated plum, apple, wild cherry, bay berry, alder, willow.

Telea Polyphemus, oak, wild cherry, butternut, birch, chestnut.

Actias Luna, hickory, oak, maple and butternut.

Samia Cynthia, ailanthus, lilac, laburnum, cherry.

Citheronia Regalis, butternut and sumach.

Eacles Imperialis, white pine, maple, hickory and bay berry.

Hyperchiria Io, white birch, willow, wild cherry.

Callosamia Promethea, wild tulip, wild cherry, white birch, sassafrass.

Samia ceanothi, wild cherry.

Samia columbia, wild cherry and pine.

The following are the food plants for several foreign moths:

Sphinx ligustri, sweet potato, lilac.

Saturnia Pyri, plum, hazel.

Saturnia Yama-moi, oak.

Saturnia Io, willow and plum.

Attacus atlas, oak, plum, barberry.

Attacus pernyi, oak.

Attacus selene, walnut.

Larvæ found on the columbine, may be tried on marsh marigold or meadow rue; on the violet, tried on cabbage or turnip; on the strawberry, tried on the bramble or raspberry; on parsley, tried on carrot or celery; on elder, tried on honey-suckle; on the sun-flower tried on golden rod or tansy; on beet, tried on spinach; or poplar and aspen, tried on osier, sallow, willow.

Experimenters have found that larvæ taken while feeding upon the apple would take the foliage of ash, lime or poplar; those on birch take beech, hazel, whortleberry; those on broom take honeysuckle and lilac; those on ivy take elder and holly; those on elm take lime; those on oak take ash, elm and willow; those on plum take birch, oak and sallow.

I trust the above facts and suggestions may prove of use to amateurs who are trying to study the habits and transformations of butterflies and moths.

Collecting on the Amazon.

BY F—— K——.

The *Ageronias* and *Epicallias* are characteristic butterflies frequenting the more open forest paths. The former are variously mottled butterflies, most of them of a grayish color, while others are deep black with numerous light blue spots. Some species have a broad oblique white band through the fore wings, which in others is represented by irregular spots. The under surface of the hind wings is variously colored in the different species—white, yellow, red or dark, with black, and sometimes additional white markings, following more or less the pattern of the upper surface. These butterflies alight on the tree trunks, with their wings open and resting on the bark, the gray ones in this position greatly resembling the light colored bark, so that it is generally no easy matter to distinguish them. They are very shy and rapid in their motions, and on being disturbed immediately dart into the top of the tree, where they again alight on the trunk or branches.

An interesting peculiarity of these butterflies is the sharp clattering noise they often produce with their wings, and which may be heard at quite a distance. When this noise is made they generally seem to be in pursuit of a mate, or perhaps in sport. I have often seen three or four of them pursuing each other closely in rapid circles around the trunk of a tree, continually rattling with their wings. The sound sometimes is also a sign of alarm as well as of pleasure; for on being approached, they often give a sharp click before they fly off.

Ag. *Anomala*, entirely of a deep velvet black with bright blue spots, is one of the handsomest species, and when settled on a white tree-trunk, with its wings spread wide open, is certainly a conspicuous object.

But the species which interested me most, and which I saw for the first time at Iquitos, is Ag. *Alicia*, discovered by Bates on the upper Amazon, and considered one of the rarest species. I saw it often at Iquitos but never more than one or two at a time, and only succeeded in obtaining a few during my several months stay. It is the largest species, spreading nearly four inches across the wings. Above, it is a dull greenish-blue, covered with black spots which are surrounded by lines paler than the ground color. On the fore wings are some grayish dashes, which look as if the color had been rubbed off in those places. Beneath, the hind wings are pale ochre-yellow, spotted with black on the edge, while the fore wings are spotted black and white.

Another species peculiar to the Upper Amazon is Ag. *Belladouna*. It closely resembles Ag *Anphinome* of the Lower Amazon in every detail of marking, both on upper and under surface; the only difference, quite a marked one, however, being that the broad white bar of *Anphinome* is represented by a few conspicuous gray spots.

S Bonds

MAY, 1887.

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VOL. XII. BOSTON, MASS., MAY 1887. No. 5.

A Collecting Trip in Texas.

BY G. B. BENNERS, PHILADELPHIA. PA.

(Continued from page 49.)

Lanius ludovicianus, Loggerhead Shrike. Rather a common bird through all parts of the state, and especially so along the railroad, where they sat on the telegraph wires, looking out for small birds. I found one nest with four eggs, heavily incubated.

Progne subis, Purple Martin. Very abundant. Every house in Texas has its Martin box, inhabited by several pairs of these birds, and it is regarded as almost a crime if you shoot them.

Petrochelidon lunifrons, Cliff Swallow. Found in immense colonies in Comal County, on the Guadalupe River. The nests were attached to the side of a cliff. We were there too early for the eggs.

Pyranga rubra, Scarlet Tanager. A single specimen secured May 1st, at Corpus Christi.

Pyranga æstiva, Summer Redbird. Found on the Guadalupe River, in Comal County, where it was quite common. One nest was found containing young birds.

Passer domesticus, English Sparrow. We saw these birds in all parts of Texas that we visited, but they had not become as common as they are in the Eastern States.

Centrophanes ornatus, Chestnut-collared Longspur. A large flock seen in Comal County, and four specimens secured.

Chondestes grammica, Lark Finch. This bird occupies the same relative position in Texas that the Song Sparrow, (*Melospiza fasciata*) does in the Eastern States. They breed on the ground and in low bushes. The average number of eggs found in a set was four.

Spizella atrigularis, Black-chinned Sparrow. We found a few of these birds at Laredo. One nest, found April 20th, in the yard attached to a house, was in a brush heap under an old piece of carpet. It contained three young birds and one addled egg, which was white, unspotted. It measured .79 x .58. Another nest found April 21st, by a companion, contained four fresh eggs. It was built in a prickly pear cactus, and resembled very much the nest of the Chipping Sparrow (*Spizella domestica*).

Pipilo erythropthalmus, Chewink. One specimen seen in Comal County.

Cardinalis virginianus, Cardinal Grosbeak. One of the commonest birds of Texas. They generally build in low bushes, and four eggs is the number we usually found.

Pyrrhuloxia sinuata, Texan Cardinal. We found these birds only on the Rio Grande. They are very shy, and keep in the thickest bushes. They are very silent compared with *Cardinalis virginianus*. One nest that I found on April 21st contained four eggs. Both parents were shot. It was composed of dried grass, lined with cow hair, and was built in a small bush about two feet from the ground. The eggs resembled those of *C. virginianus*, and measure .87 x .69; .87 x .69; .89 x .69 and .85 x .67.

Guiraca cærulea, Blue Grosbeak. A great many of these birds were seen, but we were too early for their nests.

Passerina ciris, Painted Bunting. At Corpus Christi this species is quite common, where we found it breeding. The nest was built in a thorn bush, about two feet from the ground, and was composed of dried grass, without lining. The eggs were four in number, white, dotted all over with reddish. Shot two birds.

Calamospiza bicolor, Lark Bunting. We saw several large flocks in Comal County and also at Corpus Christi. Shot two fine males in spring plumage.

Molothrus ater, Cowbird. This bird we only found in the central portion of the state.

Molothrus ater obscurus, Dwarf Cowbird. This species abounded at Corpus Christi, where we found their eggs in nests of the Cardinal Grosbeak. They came into the streets of that town in flocks, in company with Brewer's

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Blackbird, (*Scolecophagus cyanocephalus*) and the Great-tailed Grackle, (*Quiscalus macrurus*).

Xanthocephalus icterocephalus, Yellow-headed Blackbird. Found in large flocks at Corpus Christi, but it does not breed in that locality.

Sturnella neglecta, Western Meadow Lark. Common in Comal County. Had not begun to breed by April 1st.

Icterus auduboni, Audubon's Oriole. A rare species. One nest was found with young birds, built about fifteen feet up in a mesquite tree, within a few feet of the railroad track. We had a good view of the bird from the car window, but it flew away before we got to the tree.

Icterus cucullatus, Hooded Oriole. Several birds of this species were seen at Corpus Christi but they are not plentiful there. A nest found in the top of a mesquite tree contained four eggs, similar to those of the Baltimore Oriole, (*Icterus galbula*). It was built entirely of horse hair and was of a bottle shape, and measured six inches in depth, with a diameter at the bottom (outside) of four inches, and at the top of two inches. It was transparent and very firm. A set of four eggs measure .91 x .64; .90 x .66; .95 x .64 and .94 x 64.

Icterus spurius, Orchard Oriole. Very abundant and breeds in Live Oaks principally. The eggs were always four in number.

Icterus bullocki, Bullock's Oriole. Found at Corpus Christi, but rather scarce. The nest resembles that of the Orchard Oriole, and the eggs, four in number, were much like those of the *Icterus galbula*.

Scolecophagus cyanocephalus, Brewer's Blackbird. We saw large flocks of these in the streets of Corpus Christi, and also on the roofs of houses. We did not find any nests.

Quiscalus macrurus, Great-tailed Grackle. On May 5th, at Padre Island, in the Gulf of Mexico, we found a large colony of these birds breeding. The nests were built of fibres of cactus, lined with coarse grass. They were situated in a swamp in the tops of low bushes, about three feet from the ground. The eggs were always five in number, and are of a bluish white ground color, but many of them have a purplish tinge extending over part of the shell. They are marked with straggling lines of black, somewhat after the manner of an oriole's egg. They show great variation in the markings, but average 1.34 x .89 in size. One nest of this species was found in a Spanish Bayonet tree, about five feet from the ground; and a foot above the blackbird's nest, a Caracara Eagle (*Polyborus cheriway*) had chosen its nesting place, and in the latter were three young Caracaras.

Corvus cryptoleucus, White-necked Raven. Very rare, but four birds were seen at Laredo, of which we shot one on April 21st. The people said they bred twenty miles up the Rio Grande in cliffs. They appeared to be shy, and the specimen we secured was shot at dusk.

Eremophila alpestris girardi, Texan Shore Lark. Rather abundant at Corpus Christi, where they bred on the ground in the salt meadows. The nest was made of coarse grass, and was sunken in the soil. Four eggs were laid, having a white ground color, heavily marked with brown specks.

Milvulus forficatus, Scissor-tailed Flycatcher. Very abundant. Breeds in mesquite trees. The nest is generally about five feet from the ground, and is made of cotton seeds and stems, and lined with grass and hair, sometimes with a few feathers. As many as six eggs were found, but four is the common number.

Myiarchus crinitus, Great-crested Flycatcher. We saw several birds but did not find them breeding.

Trochilus colubris, Ruby-throated Hummingbird. Very abundant in Comal County, where they breed.

Trochilus alexandri, Black-chinned Hummingbird. As common in Comal County as the Ruby-throat, but breeding later.

Antrostomus carolinensis, Chuck-will's-widow. Rather abundant in Comal County. A nest was found on April 17th, containing two eggs, measuring 1.44 x 1.03 and 1.42 x 1.06.

Chordeiles acutipennis texensis, Texan Nighthawk. We saw several specimens of this bird at Laredo, and secured three sets of their eggs. They are rather scarce, and are protected by the people, who believe that a death will come to the family who allow them to be shot.

Picus scalaris, Texan Sapsucker. Plentiful in Comal County, where they breed in holes in dead trees, about twenty or thirty feet from the ground. We got two sets of their eggs, each of which contained five. They resemble those of the Downy Woodpecker, (*Picus pubescens*).

Centurus aurifrons, Golden-fronted Woodpecker. We found these birds abundant in Nueces County, where their favorite breeding places are the telegraph poles. I noticed one of these which contained four nests. On May 23rd I found a nest containing four eggs, of a soiled white color, and measuring 1.05 x .79; 1.05 x .79; 1.05 x .80 and 1.03 x .73.

Ceryle americana cabanisi, Texan Kingfisher. One specimen was observed in Comal County, on the Guadalupe River. Several nests had previously been found in former years in this locality but we were not so fortunate as to come across any.

Geococcyx californianus, Road-runner; Chaparral Cock. We first saw this bird in Comal County on April 8th. The same day we found its nest. It was built in a mesquite tree about seven feet from the ground, and resembled a large nest of a Cuckoo, being formed of small sticks, lined with rootlets. It contained eight eggs, all incubated. The birds were very shy.

Coccyzus americanus, Yellow-billed Cuckoo. Scarce. Only saw one pair of these birds, and found their nest, containing five eggs. This was on May 2nd, at Corpus Christi.

Coccyzus erythropthalmus, Black-billed Cuckoo. Also scarce. I found one nest that the birds were just beginning to build.

Strix nebulosa, Barred Owl. We saw one specimen in Comal County, and were told they bred there.

Scops asio maccalli, Texan Screech Owl. Rather abundadt. We saw only two, but heard them frequently at night. Two of their eggs were brought to me while I was in Comal County.

Bubo virginianus, Great Horned Owl. Rather abundant in Nueces County, where they frequented the low mesquite trees. Saw two birds, and heard them at night. A set of two eggs has since been sent to me from that locality.

Falco peregrinus nævius, American Peregrine Falcon. We saw one bird of this species in Nueces County. It attrcked a goose and killed it in our presence, but the prey was too heavy for it, and the goose dropped in the water. Our guide informed us that it was a rare bird in that locality.

Tinnunculus sparverius, Sparrow Hawk. Very common. We saw a great many of them in Comal and other counties. They were as shy, however, as they are in the North.

Polyborus cheriway. Carcara Eagle. Comparatively rare in Comal County, where we only saw about a dozen birds, of which we shot four. Two nests were found which were built in the tops of Live Oak trees, although an old nest was found in a pine tree. They were about thirty feet from the ground and very bulky; being composed of good-sized sticks, with a lining of coarse prarie grass. The diameter was about three and a half feet, but the structure very shallow. I was told that the birds returned year after year to the same nest, and would even lay a second time in it after being deprived of their first set of eggs.

One nest contained two eggs and the other three. The set of two were of the ordinary type of coloration for this bird, being of a reddish brown ground color, marked with blotches of a darker shade of brown. The other set had some white on the ground color, and the blotches of brown were larger and fewer in number.

One of the set of three eggs we put under a hen to hatch out the chick. The eggs were fresh when we took them, and the hen was exactly twenty-one days hatching the egg; so this may be regarded as fixing the period of incubation of this species, unless it be that the old hen, sitting so continuously as she did, performed her work more quickly than the Caracara would have done. When ready to break the shell the chick made such an unusual noise that the old hen left her nest in disgust, and the young bird died. I got him out and succeeded in making a good mounted specimen of him. The plumage is a mass of yellowish down, with the wings and topnot of a rusty brown. He measured five inches from the tip of the beak to the end of the tail, and the beak is very characteristic of the species.

We did not see any Caracaras at Laredo, but found them more plentiful in Nueces County than they were in Comal. We found six sets, each containing three eggs, which seemed to be the usual number there, and a reliable authority told us that he knew of a set of four having been taken. In this locality the nests were not more than five or six feet from the ground, in the tops of the low mesquite trees, and the structure was not as bulky. We found one set on an island off the coast of Nueces County, built in the top of a Spanish dagger bush, about eight feet high.

On May 19th, near Corpus Christi, I found a set of three eggs of this bird, which are the most peculiarly marked specimens I have ever seen. The ground color is pure white, and this is covered with small spots of bright reddish brown, but the whole appearance of the egg is much whiter than any others I have met with.

One of this set, however, is of a plain brownish red, with no white on it. They measure 2.36 x 1.87; 2.50 x 1.84 and 2.29 x 1.79.

I kept a young Caracara, about ten days old, for three days, during which time I fed it on arsenic in large quantities, apparently with no bad results. Its death was finally caused by compression of the lungs — the effect of a squeeze.

Pandion haliaetus carolinensis, American Osprey; Fish Hawk. These birds appeared to be quite common on the Gulf coast. We were informed they bred there, but we did not find any of their nests.

Elanoides forficatus, Swallow-tailed Kite. In Comal County we met with only two specimens; but in the extreme northern part of Nueces County, we saw about a dozen of them at a time, flying over a stream, and darting about like swallows. Our guide informed us that they bred further up the coast.

Circus hudsonius, Marsh Hawk. Rather common all over the state. We shot several, but found no nests.

Accipiter fuscus, Sharp-shinned Hawk. About as common as the Marsh Hawk, but no one that we met with had ever found their nest. I shot a magnificent specimen; a male, in Comal County.

Antenor unicinctus harrisi, Harris' Hawk. I saw only one specimen in Comal County. This was brought to us by a Mexican, who had shot it with a rifle. In Nueces County, however, they seemed to be quite common, and nested in the same positions as the Caracara, with whom they kept company.

We found several nests in Nueces County, which were built in the tops of mesquite trees, and composed of sticks, lined with grass. On May 12th, I found the first set of three eggs, which are of a light bluish white, unspotted, and measure 2.07 x 1.68; 2.09 x 1.74 and 2.07 x 1.69. On the same day I also found a set of two eggs, which showed no variation in appearance. They measure 2.14 x 1.74 and 2.09 x 1.70. Several other sets were found, one of which had some brownish markings on them.

I put one of the eggs of this bird under a hen, who hatched it out. The chick appeared healthy, but was sacrificed in the interest of science. It was covered with bright yellow down, and was about three inches long.

Buteo borealis, Red-tailed Hawk. We found this species quite rare in Comal County, but shot one magnificent specimen.

Buteo albicaudatus, White-tailed Hawk. This, the most beautiful of all the hawks, we found quite numerous in Nueces County, and secured nine specimens. They are extremely shy, and very difficult to get near. When their nest is approached they circle over your head, but always out of gun shot.

It takes three years for them to attain their full adult plumage, and in one case we found a female of the second year breeding with a male in full plumage.

Their food consists of snakes, frogs, rabbits, and quails.

Their nest is always built in the top of a bush (as there are no trees of any size where this hawk are found), generally from five to seven feet from the ground. It is composed of rough grass and lined with a little finer grass. The outside diameter is about three feet, but the interior of the nest is very small, being only large enough to hold the eggs, which are sometimes found covered over with grass. They are always two in number, and are of a dead white, sometimes faintly marked with a light brown. One set I found are nearly globular in form, and closely resemble the eggs of the Great Horned Owl, (*Bubo virginianus*). My first set was taken May 10th, near Corpus Christi, and contained two eggs, which measure 2.26 x 1.88 and 2.29 x 1.70. The next nest was found on May 19th, on Padre Island, in the Gulf of Mexico. This was built in the most peculiar situation, being on a Scrub Oak, not more than a foot and a half from the ground. This bush was the only one in sight. The nest contained two eggs, measuring about the same as the former set, and the female was shot.

Buteo Swainsoni, Swainson's Hawk. Common in Nueces County, where we shot a specimen in full plumage, near Corpus Christi. I was also informed that it bred in Comal County.

Aquila chrysaetus canadensis, Golden Eagle. We saw only one specimen of this species in Comal County, which we wounded but did not secure. I have heard of a set of their eggs having been taken in the same county in 1883.

Catharates aura, Turkey Buzzard. Very common. I saw them in the yards attached to houses in Corpus Christi, where they came after the refuse thrown out for them. They are protected by law, and he who shot one would probably find himself in hot water.

The first nest we found was in Comal County on a small ledge of rocks, about ten feet from the ground. They were laid on the bare rock, and were two in number. In Nueces County we found the eggs on the ground, generally under a bush, or a cactus.

When the young are hatched the nest becomes very offensive, owing to the quantity of carrion the parents bring to the young birds. The negroes eat the latter, but I would rather be excused from such a diet.

Cathartes atrata, Black Vulture. These birds are almost as common as the Turkey Buzzard in Texas, and, like them, come into the towns. We found the first set of eggs in Nueces County on May 12th. They were laid on the ground, under a bush.

Zenaidura carolinensis, Mourning Dove. Very common. Breeds. In Nueces County we often found their nests on the ground. Several of the sets consisted of three eggs, and one of the latter nests was on the ground, among a large number of sets of eggs of different kinds of Terns, on an Island in the Gulf of Mexico.

Chamæpelia passerina, Ground Dove. We saw a few specimens at Laredo, on the Rio Grande. We left there before they began to breed.

Meleagris gallopavo americana, Wild Turkey. Common, but very shy. We shot several.

(To be Concluded.)

Notes on the Eggs of the Thrushes and Thrashers.

BY HARRY G. PARKER.

In the contemplation of a series of sets of the eggs of the various species composing the Thrushes and Thrashers there are many interesting points to the student in oölogy. A casual observer will note the variety of color displayed, and the varying number of eggs comprising sets in the different genera. This renders these families of special interest to the lover of the beautiful, and to the oölogist it affords food for study and comparison, which may beguile many hours, and bring the beholder as near to nature as he can approach in winter, with bleak winds and naked hills without.

Wood Thrush (*Hylocichla mustelina*). Deep greenish blue eggs, easily distinguished from the Robin's, which are larger. Four eggs generally constitute a set, though the writer has taken one set of five in which one was a runt. Very often also, only three are laid. This bird is sometimes made the foster parent of the Cowbird's young, and two instances are remembered where the foreign egg was taken with the Thrushes eggs in a nest. In one case one egg of the Cowbird and one of the Thrush was found, and in the other three eggs of the Cowbird and two of the Thrush.

Eggs of this species show comparatively little variation, but some examples are rounded and some of the elongated form; and the differing degrees of intensity of blue are perceptible to a close observer. An extra large sized specimen measures 1.11 x .83; but this is quite phenomenal however, as the usual size is about 1.00 x .75.

Wilson's Thrush (*Hylocichla fuscesceus*). Eggs universally four, blue, unspotted. In shade they seem to be darker than eggs of the Hermit Thrush, and this darker blue is constant in comparing a series of each. The size is apparently the same, and a faded set of small Catbird's eggs look somewhat like those of Wilson's Thrush.

The nest of this bird is essentially different from that of the Wood Thrush, inasmuch as it is losely constructed, and contains no mud, and is placed on the ground or near it. It breeds in Pennsylvania and Ohio sparingly, and finds its most congenial haunts in New England and to the Northward.

Gray-cheeked Thrush (*Hylocichla aliciæ*). A bird breeding quite commonly in northern portions of the country, but as authentic eggs are seldom seen in private collections, it is enough to say in this connection that they are a deep shade of green marked with russet-brown spots and are about the same size as eggs of *Hylocichla ustulata swainsoni*.

Russet-backed Thrush (*Hylocichla ustulata*). This bird inhabits the Pacific coast States and is evidently very widely dispersed in the province. A large series of sets of these eggs show very interesting variations in color, from a light greenish ground flecked with lilac spots, to a dark blue covered with tints of yellow, brown, lilac and red; and in some examples the ground color is obscured with the intensity of brown and reddish spots. These eggs in some instances have a striking resemblance to those of the Olive-backed Thrush.

Olive-backed Thrush (*Hylocichla ustulata swainsoni*). Possibly breeds in the mountainous portions of Pennsylvania, but its habitat is Massachusetts and northward. Eggs of this species run through all the varieties exhibited in a series of the Russet-back, and no rule can be laid down for properly distinguishing the eggs of these birds in the cabinet. Eggs commonly four, rarely five, and sometimes three.

A set collected at Grand Manan, N. B., June 18, 1884, was taken from a nest in a spruce tree three feet from the ground. Eggs bright bluish green, specked all over with reddish brown, quite pointed, .90 x .63; .89 x .64; .90 x .63.

Another set collected June 11th, 1877, also at Grand Manan, N. B., the nest which was made of roots etc., in a hollow stump about five feet from the ground, has four eggs: .94 x .70; .94 x .71; .96 x .71 and .96 x .69. Pale bluish, spotted with reddish brown, chiefly at the larger end. In three of the eggs the markings form an indistinct wreath at the larger end.

Hermit Thrush (*Hylocichla unalascæ pallasi*). Eggs generally four in number, average size .90 x .66. Though very similar to the eggs of Wilson's Thrush, those of the present species appear to be possessed of a much more delicate and lighter shade of blue; the similarity likewise extends to the nests of these two species. In one set of these eggs minute pin point spots of black are apparent to the eye, and upon applying a strong glass they appear even more distinctly. In two eggs of the set these spots are easily observed, and on the third egg entirely lacking. A number of applications of an acid wash have failed to remove them.

The nest is found in swampy or low places, and the breeding range is from Massachusetts northward. Two sets collected in Ontario, on May 30th and June 23rd, 1886, respectively measure .89 x .66; .88 x .68; .93 x .65; .89 x .66, and .90 x .65; .86 x .63; .84 x .62.

Red-wing Thrush (*Turdus iliacus*). In *The Ibis* for 1861, (*cf.* Reinhardt) was recorded two examples of this European species having been taken in Greenland, and hence the bird is admitted to our fauna, and occupies its proper place in the standard Nomenclatures. Laishley (*British Bird's Eggs*) 1858, p. 47, says "the eggs closely resemble those of the Blackbird (*Turdus merula*), but if there is a difference in size are smaller." It is a winter resident only of Great Britain, breeding in northern latitudes. Hewiston found them nesting in Norway, where it has the name of "the Nightingale." The nest of the Red-wing, says Mr. Hewiston "is placed like those of the Thrush (*Turdus musicus*) and Blackbird (*Turdus merula*), in the centre of a thorn or other thick bush. It is similar to those of the Blackbird, Fieldfare (*Turdus pilairis*) and Ringouzel (*Turdus torquatus*). Outwardly it is formed of moss, roots and dry grass; inwardly cemented with clay, and again lined with finer grass." The English Blackbird's egg (*Turdus merula*), as figured by Atkinson is about the size of that of the American Robin (*Merula migratoria*), light greenish, speckled all over with fine brownish specks, and much resembles some specimens of our Cowbird's (*Molothrus ater*) eggs, only it is larger in size. Seebohn in his *British Oölogy* figures several specimens in a realistic manner.

A set of fonr eggs collected at Anclam, Germany, on May 14th, 1885, have a dull, light greenish ground very thickly and evenly marked all over the surface with brownish specks and cloudings. These are so thick and close that the general efiect is that of a brown egg, quite pointed, measure 1.04 x .76; 1.03 x .74; 1.03 x .73; 1.02 x .74.

A set of five taken in Lapland, May, 1883, resemble somewhat some specimens of Russet-backed Thrush (*Hylocichla ustulata*), though much larger. Two-thirds of each egg is dull greenish, and towards and around the larger end there are quite heavy markings of bright reddish brown. They measure 1.03 x .77; 1.03 x .76; 1.02 x .74; 1.00 x .76 and .98 x .76.

A set of six eggs, greenish ground, clouded and marked with different shades of brown; taken in Lapland, May, 1883. Size 1.05 x .74; 1.04 x .73; 1.03 x .73; 1.00 x .70; .98 x .74 and .97 x .73.

Another set of six eggs, greenish, closely freckled with such small spottings of brown that the appearance is that of a dirty uniform green. This set was taken in Lapland, and measure 1.11 x .75; 1.08 x .74; 1.04 x .74; 1.02 x .75; 1.02 x .74 and 1.02 x .72.

American Robin (*Merula migratoria*). The number of eggs laid is generally four, though the writer has been especially fortunate once, in finding sets of five and six. Whether these extreme sets were deposited by one female each, it is impossible to say. Such cases are exceptional and establish nothing. The eggs are greenish blue, normally unspotted; in size averaging 1.18 x .81. During the season just passed (1886) every Robin's nest encountered was looked into, in the hope, maybe, of finding those spotted eggs of which we occasionally hear. This peculiar phase was not met with, but it is a fact worthy of mention that in only one instance, in probably fifty, was more than three eggs seen. The writer's experience in this respect was not unique, and conversation with a number of observers confirms this strange phenomena. A long set average 1.25 x .80; a short set average 1.05 x .86.

Western Robin (*Merula migratoria propinqua*). Eggs of this bird seem to average slightly larger, though of course, they could not be differentiated with certainty.

Varied Robin (*Hesperocichla nœvia*). Although these eggs have been offered by some dealers at ridiculously low figures, it may be of interest to state that there is probably no authentic set in any private collection, and the National Museum at Washington, has as yet the only authentic examples known to the writer, a very few eggs taken in Alaska.

Sage Thrasher (*Oreoscoptes montanus*). These eggs are commonly described as looking much like those of the Mockingbird (*Mimus polyglottus*) and if a sufficiently large series of the former was accessible to the writer for comparison he might determine the point to his own satisfaction. To speak within bounds it will be safe to say that all sets of Sage Thrasher ever seen possessed an entirely different appearance. The ground color being of *varying* degrees of intensity of dark blue, it is true, but always very different from any color seen in any eggs in large series of Mockingbird. A set of five eggs, taken in Montana in 1885, by Captain Chas. E. Bendire, has a ground color of an intensely deep shade of blue, (as deep in fact, as the ordinary color of Catbird's eggs) spotted and blotched all over the larger end with dark olive brown. Their size is .98 x .74; .97 x.74; .97 x .73; .97 x .72 and .97 x .72.

Another set in the American Museum of Natural History, New York City, consisting of four eggs, resembles this set very closely; but the ground color seems to have a somewhat faded appearance from exposure to light. Both sets are entirely unlike any eggs of Mockingbird, and published descriptions seem to be either faulty, or else fail to convey a correct idea of their appearance, largely due to the unfortunate comparison with eggs of *M. polyglottus*.

Since writing the above I have examined a third set consisting of four eggs, in the cabinet of a gentleman in Philadelphia, and they fully sustain what is said above.

Mockingbird (*Mimus polyglottus*). A series of these eggs presents a beautiful sight, as they vary from a light blue ground through several darker shades, rendered doubly dark by reason of blotches of chocolate, purple, russet and brown. In some specimens much of the surface is of an unmarked plain blue, and a mass of chocolate or yellowish brown-spots form a well defined wreath around the larger end. Four or five eggs are generally laid, though six are found occasionally; and the bird is an abundant inhabitant of the southern part of the United States. A large specimen measures 1.13 x .76, and a smaller one .81 x .63.

Catbird (*Galeoscoptes carolinensis*). Probably a more abundant bird than even the ubiquitous Robin (*Merula migratoria*),and to him who is abroad in the early morning he exhibits a power of mimicry and delightful song which compares favorably with the efforts of any of his fellows, though lacking the melodious and liquid notes of the Wood Thrush.

The eggs are of a bluish green, and fade when exposed to light. In twenty-six nests examined in May, 1885, three contained sets of five eggs each, and the remainder had either four eggs or sets incomplete. Average size .98 x .75.

Brown Thrasher (*Harporhynchus rufus*). Sets of five eggs are taken as often as sets of four in this locality. They are of a greenish white or soiled white, more or less covered with reddish brown dots. They show great variations — a dark green ground with reddish spots being the most beautiful and at the same time the rarest phase. Another variety has a lighter ground of green with spots. One set might be called albinos, the spotting being quite obscure, revealing an egg almost white. Another set presents a roseate appearance, owing to its being covered with bright red spotting all over the eggs and glistening in the light. Others are artistically ringed about the greater extremity, and thus might be detailed an endless variety, both in size, shape and color. They present nearly every conceivable phase and yet to my eye do not possess the characters shown in a series of the Mexican bird (*Harporhynchus rufus longirostris*), though it would be difficult to explain the difference on paper. The average measurement of thirty-six eggs is 1.03 x .80.

Mexican Brown Thrasher (*Harporhynchus rufus longirostris*). It has been the writer's privilege to see a fine series of these eggs with nests in the collection of Mr. George B. Sennett, which is now deposited in the American Museum of Natural History, New York City. It presents every phase of conformation and color shown in other spotted eggs, and a normal specimen is undeniably a handsomer and better egg than our common Brown Thrasher (*H. rufus*).

A set of four eggs collected in Cameron County, Texas, May, 1886, measures 1.08 x .78; 1.06 x .79; 1.05 x .76; 1.07 x .77. The nest is described as being made of sticks and rootlets, flat with but little soft lining, therefore as far as description goes, it closely resembles the architecture of *H. rufus*. The color of this set is grayish white speckled with reddish brown; thicker at the larger end. One egg has a bluish tinge.

A set in the collection of the present writer is of a clearer white ground and the spotting of reddish tends to the wreath pattern around the greater extremity. Size of four eggs respectively, 1.11 x .78; 1.08 x .78; 1.06 x .78; 1.05 x .77.

Saint Lucas Thrasher (*Harporhynchus cinereus*). A set of three eggs taken at Guaymas, Mexico, measures 1.03 x .72; 1.04 x .72 and 1.00 x .71. They are of a bluish white ground color, marked heavily with blotches of purple and brown. A set in the collection of Captain B. F. Goss, he tells me, are of a darker ground color, with the same markings; and a set in the American Museum Collection, New York City, corresponds closely with the above, seeming to have a darker appearance, however.

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ESPECIALLY DEVOTED TO THE STUDY OF
BIRDS,
THEIR NESTS AND EGGS.
DESIGNED AS A MEANS FOR THE INTERCHANGE OF NOTES AND OBSERVATIONS ON BIRD AND INSECT LIFE.

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As this bird is confined to the Lower Californian peninsular and possibly to the adjacent shores of Mexico, where collectors seldom venture, the eggs remain a great desideratum. Eggs of this species are indistinguishable from Bendire's Thrasher.

Bendire's Thrasher (*Harporhynchus bendirei*). I quote from a letter written by me to Mr. Oliver Davie in 1885, and which he published in the second edition of his *Nests and Eggs of N. A. Birds*, page 11. "The first set of three eggs was taken April 10, 1885, near Sacaton, Pinal County, Arizona, by Dr. Chas. Carter. The nest was large and curious, being made of twigs and spines from the cactus and other plants. It was placed in a mezquite bush three feet from the ground in a very lonely spot. The eggs have a ground color which I should call a clear grayish white, and blotched with different shades of pale rusty brown. These blotches resemble in style those found on the eggs of the Mockingbird. The eggs show the following measurements: 1.01 x .74; 1.00 x .73; .98 x .72. The other set of two shows no variation in size, but the ground color is dirty white, and the spots indistinct and altogether much inferior to the brighter colored set just described."

Another set, collected near Tucson, Pima County, Arizona, on April 5th, 1885, has a dull white ground color spotted with faint brown, thicker at the larger end. Size .97 x .74; .99 x .74; .70 x .75. In a series the spots vary greatly in size and intensity, rendering no two sets just alike in appearance. In fact one set of three eggs is almost an exact counterpart of a selected set of Texan Cardinal (*Pyrrhuloxia sinnata*).

Curve-bill Thrasher (*Harporhynchus curvirostris*). The eggs of this species are of a light green ground color, sprinkled generally over the entire surface with pin point spots of brown or reddish brown. That the eggs are subject to great variation in size may be evidenced by giving the measurements of two selected sets. Set 1: taken April 22nd, 1886, in Cameron County, Texas. Nest near ground in a cactus plant; bulky and composed of sticks, grasses, etc. Eggs light greenish, speckled all over with fine brownish red dots. 1.25 x .81; 1.21 x .83; 1.22 x .81; 1.16 x .81. An elongated set. Set 2: short and blunt; collected May 5th, 1886, in Cameron County, Texas, in a bush near the ground. Eggs of a light greenish blue, finely speckled all over with reddish brown dots; 1.06 x .85; 1.04 x .89; 1.04 x .82 and .99 x .83. In Mr. Sennett's collection this astonishing range in size is equally apparent, which conclusively proves that measurements alone as a standard for identification go for nothing. These eggs very closely resemble those of Palmer's Thrasher, and great care should be exercised in determining the locality from which collected before labelling in the cabinet. The eggs are absolutely indistinguishable.

Palmer's Thrasher (*Harporhynchus curvirostris palmeri*). The breeding place of this bird is confined (so far as can be determined) to portions of Arizona and south into Sonora, Mexico. It has just been remarked the eggs are entirely similar to those of *H. curvirostris.* Three eggs seems to be the general number, and sets of four are very exceptional.

A set in the writer's collection taken in Pima County, Arizona, measure 1.17 x .79; 1.19 x .82, and 1.20 x .82. Two other sets collected near Tucson, Arizona, are as follows: Set 1, May 22nd, 1880, light greenish blue finely speckled with brown, 1.15 x .81; 1.16 x .79; 1.26 x .82. Set 2, Feb. 28th, 1886, nest in east side of a cholla cactus about two feet from the ground, (the cholla was two feet high and six feet in diameter). Nest made of coarse thorn twigs, lined with dried wire grass and feathers. Interior diameter, top four inches, bottom two inches, external depth nine inches, external diameter sixteen inches. Regarding the latter nest the collector says "This nest was remarkable inasmuch as it is the first of its kind I ever saw or heard of that was lined with feathers." Color of the three eggs, light greenish blue, but darker than the other set, speckled more distinctly than the former ones with reddish brown. One of the eggs has larger and darker spots at the greater end. Size 1.24 x .82; 1.20 x .80, and 1.21 x .80.

Californian Thrasher (*Harporhynchus redivivus*). The largest of the Thrashers. Eggs light greenish blue, speckled, spotted and blotched with reddish brown. Three eggs generally constitute a set, though sets of four are sometimes encountered. A set of four taken May 6, 1882, at Riverside, Cala., measures 1.22 x .82; 1.19 x .82; 1.17 x .82 and 1.15 x .80. The nest was of twigs and coarse grass, lined with fine dry grass and found in a sage bush.

A large set measures 1 29 x .78; 1.23 x .81; 1.21 x .82. Average measurements of six sets, 1.21 x .80.

Leconte's Thrasher (*Harporhynchus redivivus lecontei*). In THE ORNITHOLOGIST AND OÖLOGIST for December, 1886, there appeared an article by the present writer, in which each egg of a set of four of this species was described separately. In that instance there was used the following language in making comparisons with eggs of the other species of this genus: "To compare these eggs (Leconte's Thrasher) with those of the kindred Thrashers, I would say that they are much smaller and of a lighter and more delicate shade than those of the Californian Thrasher (*H. redivivus*) about the same size as those of the Curve-bill Thrasher (*H. curvirostris*), but the spots and dots are much less numerous and of a lighter shade; and a set of each side by side show differences more easily discovered than described, and greater than would be exhibited in any number of sets, in a series of Curve-bill Thrasher. The ground color of this set is lighter than any eggs I have seen of Palmer's Thrasher (*H. c. palmeri*). The eggs of Palmer's are more blunt ended, fuller and more rounded than the present examples of Leconte's Thrasher, and an egg of the latter can instantly be picked out of a handful of those of the Californian, Curve-bill and Palmer's Thrashers."

Since writing the above in October 1886, a single additional specimen has been seen, in which the ground color is of a much darker hue, thus showing that, as with eggs of our commoner species, the primary color ranges through various shades, within certain limits, though possessing an individuality which renders the egg easily identified even in the cabinet.

Rufus-vented Thrasher (*Harporhynchus crissalis*). It was for some time supposed that two eggs constituted a set of this species; and Captain Bendire in his interesting field experience in Arizona, in 1872, failed to find more in any instance; but since then investigations in different portions of the territory have revealed many sets of three, and occasionally four. A set collected by Mr. F. Stephens near Tucson, Arizona, April 10th, 1884, measures 1.09 x .72; 1.12 x .73 and 1.13 x .73. Several other sets show no great variation in size, though as in a series of any species the elongated and obtuse forms are seen. The eggs are indistinguishable from those of the Robin and Arizona Jay (*Aphelocoma sordida arizonæ*).

Tame Night Heron.

BY HENRY HALES.

A few years ago I sent a short communication to the ORNITHOLOGIST AND OÖLOGIST in regard to the hardiness of Night Herons (*Nyctiardea gardeni*. As my experience with my pet Heron was pleasant to myself I think perhaps it may interest some of your readers.

Being presented with a pair of Night Herons, I kept them but a short time in confinement, and then gave them their liberty, which was as soon as they appeared able to take care of themselves. Living on a farm near a fine meadow, with a creek and some woodland, they had a good opportunity to start in life on their own account, particularly as wild birds of the same species were often heard near by.

In about three weeks one bird disappeared but the other remained. We called him Jack, to which he always responded, especially if hungry. We fed him on fish and meat, mice, hazlet etc.; in fact, nothing of animal food came amiss to him. He made his headquarters in a flower and kitchen garden in front of my house. His sight was to all appearance as sharp by day as at twilight, but during the latter he was very lively, often taking a flight for a mile or more in circles around the place or visiting a pond in the edge of the meadow near the house, or another duck pond in a poultry yard close to the barn, within seventy-five feet of it and about thirty from a hen house, where he could always find frogs, of which he was very fond. At night he roosted in a pine tree close to the front of my house, not often flying after dark. During the morning he would come to the door and wait for his breakfast, following any one of the family and calling loudly for his food. After eating he would take a position on a fence post, or limb of a tree, standing on one leg with his head drawn close down to his shoulders, as motionless as a statue; but should he not get enough to satisfy his hunger he was active and restless; he would then follow the cat into the kitchen if she had a mouse and watch her to see if she would lay it before her kitten, should she do so he would snatch it and fly off to his tub of water, soak it and swallow it whole. He would even go to the kitten's box, turn over the bed to look for mice, as the mother cat would sometimes hide them there, as she supposed from Jack.

He often spent longing hours over some young quail I had in a wire enclosure. Occasionally he would fall in love with a young chicken, and one day when a little neglected, he swallowed a half grown bantam, so large for his stomach that he could not down the legs, as he rested on a post with the bird's feet sticking out of his mouth till the body digested sufficiently for the feet to follow. His appetite was not one of the daintiest, especially if fish was on the bill of fare. At one meal he once swallowed nine large smelts.

One thing worth noting was his perfect fearlessness of cats and dogs. At times, when basking in the sun a dog would run up to him; he kept perfectly motionless till the dog came close enough, when he would strike at his face with such effect as to astonish the dog, who would immediately give Jack a wide berth afterwards, in consideration of retaining his eyesight. He would never let a chance slip at our own dog or cat should they pass close enough for Jack to get a poke at their sides.

He preferred to sleep on the tree all winter, not showing the least appearance of suffering from cold in the severest weather. He fed freely from our hands and was fond of being noticed by any of the family, answering by a *squark* when spoken to, and would follow us all over the place.

When spring came, Jack wanted to build a nest and carried up a lot of sticks into his tree and made a platform of them but did not finish the nest. During the next September, after having had him fifteen months, another Heron probably the same that left us, visited him nightly for several weeks, alighting by the pond and calling his well-known *squark*. One morning Jack was missing and we heard no more of them.

The following summer a Night Heron, (no doubt the same Jack) aligted on my barn roof in company with a young one only half grown, to the great consternation of the poultry which from their shouts of alarm called my attention to the Herons. The old bird flew down to the little pond in the poultry yard followed by the young one, which it left there, seemingly to shift for itself, as it stayed there several weeks till full grown. To our delight the old bird occasionally visited it, and when he flew over would always answer when we called Jack. The young bird was so tame that if he was disturbed he would merely fly into a tree that overhung the pond and wait till all was quiet and then resume his position in the edge of the pond watching for frogs. The next year the old bird repeated the same thing, bringing another young one, but the pond drying up in about a week after, the young one left. The next fall I filled up the pond as a sanitary measure and the next summer saw no more of the Herons.

Several things are worth noting in this affair. In the first place, if it was merely a question of food, the further pond offered greater inducements; was it a matter of protection or force of habit, or both, that induced the bird to quarter his young one in the yard? No wild Heron would light on a barn and then fly to the pond so near buildings and surrounded by lots of poultry, but no ducks. The poultry did not trouble him, as he waded far enough from the edge to be out of their way.

Another singular thing was the remarkable tameness and contented manner of the young birds in stopping there, for while attending to the young chickens, one was very often near the pond. Is this a habit of the species, taking their young, only half grown, to a place suitable for them to find their own food and shift for themselves? If this is generally the case, it is a singular habit worth noticing.

Wiles of the Peregrine Falcon.

BY W. C. AVERY, M. D., GREENSBORO, AL.

While shooting one day, as I entered a large field, my attention was attracted to a flock of Killdeer, flying high over head. They were as noisy as usual and flew in different directions, as if they had been disturbed and scattered.

Far below the Killdeers, came rapidly towards me a Peregrine Falcon, one eye glancing up at a killdeer many feet above him. His long pointed wings beat the air with short, quick strokes, as they bore him with increasing speed till he reached a point just below his unwary victim, when, as an arrow from a bow, he shot upwards, passing not a foot ahead of the incoming killdeer. The bird literally flew into the outstretched talons that seized and bore it several hundred yards to the top of a tall red oak tree.

Not many minutes had elapsed before I was standing under the tree. A well directed charge of No. 8 shot was launched at the hawk; the killdeer fell from his grasp; he fell to the under side of the limb on which he was perched, quivered a few seconds, released his hold, and followed his dead quarry to the ground.

On another occasion, I was shooting ducks in a slough in the Warrion bottom, when I heard an unusual noise, so loud and so continued was it that I took it to be the scream of some large bird in distress—a Pileated Woodpecker perhaps. I hastened towards the place whence the cries proceeded. As I waded into the water, I saw a Peregrine Falcon hovering above the timber, as a Fish Hawk balances himself before he descends. I started a black duck from under a log not ten feet from me; as I proceeded other ducks left their hiding places and sought safety in flight. They were aware of the danger over head in the shape of the Falcon, and all the frightful screams of the cunning hawk had not caused them to leave the water. My presence in their very midst had alarmed them and so soon as they were on the wing the Falcon darted like lightning after them, and they disappeared through the timber with their pursuer close behind them.

The capture of the Killdeer by the Falcon, in the manner above described, was certainly astonishing. It was evidently a ruse, as the bird did not see its enemy, till like an apparition, he shot up just ahead and the two taloned feet were extended to receive it.

The Falcon resorts, also, to cunning when he seeks to frighten the ducks from the water by screams louder than I had supposed it possible for such a bird to make.

Sometimes the shooter is surprised by the presence of the Peregrine Falcon as he falls, as it were, from the very clouds.

Once, upon the coast of North Carolina, near Nay's Head, I had shot several Willets and was reloading my muzzle, when a Peregrine Falcon stooped at a winged Willet that stood in the water not twenty yards from me. The wounded bird escaped by squatting suddenly. The upward flight of the Falcon seemed to me not less rapid than had been his descent. I had one barrel loaded, the contents of which I sent after himwithout apparent effect, as he towered in a few seconds beyond the reach of danger.

One among other occasions, when this marauder has suddenly appeared on the scene, I shall never forget. I had one day scattered a covey of partridges (*Colbnus virginianus*) in an open field, and had hunted the single birds for some time with varied success; now killing, now missing a bird. Finally my dog pointed in a sedge field, at least a half a mile from the nearest woods. I flushed the bird and missed it; almost simultaneously with the shot, a Peregrine Falcon stooped from the sky; coming downward and directly behind the whirring partridge, he passed by me swift as the leaden shower I had just sent in vain after poor Bob White; overtaking but missing his quarry before it had flown two hundred yards. It seemed to me that the Falcon must have flown with at least four times the speed of the partridge, and that he flew at least a half a mile while the latter was going two hundred yards.

That bird was bagged that day by neither shooter nor hawk. I marked it down; but I had not the heart to flush and shoot at it again when it had escaped the leaden missiles hurled after it, and the sharp talons of the hungry Falcon that followed in their wake.

Nesting of the Barred Owl in Texas.

BY EDWIN C. DAVIS, GAINESVILLE, TEXAS.

Imagine yourself twenty-five miles from any railroad station, and miles away from a house of any kind, on a cold and disagreeable day in March, and no possible chance of finding shelter from a drenching rain. Well, this was the condition of a friend and myself on the 6th day of March, 1886. We had set out to visit the swamps of the Sabine river in hopes of adding a few sets of *Bubo's* eggs to our collections, and as all preparations had been made, on the day named we started and after travelling almost a day through underbrush, over decayed logs, and after wading through bogs and driftwood almost waist deep, we arrived at our place of destination. Being very much fatigued from our day's journey we concluded to "pitch our tents" on a high point near by, which we discovered to be above high water mark. (The river at that season of the year is very treacherous, caused by our spring rains, and there is no telling when you may be surrounded or submerged by the rushing stream). But much to our disappointment and chagrin, we had, during the excitement of getting started, forgotten the tent, and so here we were miles from home without anything to shelter us.

You can imagine our feelings, and the great pleasure of knowing that we we would perhaps be visited by a cold March rain that very night; and I will here say we were not disappointed, for we did have one and a good one too.

As darkness came on the deep pine wood echoed and re-echoed with the hoot of the "Booby" owl; and I must say it was not the most pleasant sensation in the world to hear the deep base voice of an "old setter" hooting up the swamp and then to be answered by a Screech Owl with its soul-terrorizing screech, reminding one of the wailing laugh of an escaped maniac of Goblin days. This was kept up until about eight o'clock, when everything settled into a death-like stillness, and then we only wished for one more hoot of an owl to break the monotony, but our wishes were not fulfilled. After a short time we were asleep, only to be awakened about midnight by a rustling in the branches overhead, and upon looking in that direction what should be our surprise and fright to see an immense owl peering down upon us. He was within three feet of our heads, and at the moment of our looking up, he gave an unearthly hoot, as if saying "who are you?" My friend at the instant became frightened, grasped his revolver and jumped up, at the same time exclaiming "who in the —— are you?" I would remark that my friend is not a profane man, but you will pardon him under the circumstances. Of course the owl on hearing such language, immediately left us to join more agreeable company.

After laughing ourselves to sleep, we were not again disturbed until about three o'clock, when this time only to be aroused from our slumbers by a drenching rain. One who never has experienced such, does not appreciate it. We sat around a slow fire, however, working our utmost to keep it burning, until the hours of morning began to show their welcome light in the east, and if day was ever greeted with more pleasure by anyone than by us, I would like to see them.

After eating a cold breakfast we concluded to take a look for *Bubo's* nests, notwithstanding the trees were as slippery as greased poles. But this did not baffle us, so we started our search and were not long in being rewarded by finding a nest of the Long-eared Owl (*Asio americanus*), containing three eggs. Going a short distance further we made a still better find of four eggs of the same species; but here our luck left us and we made a pretty good tramp of over two hours through mud and drift until we came upon a nest of the Barred Owl (*Strix nebulosa*) placed in a tall pine, and after making several attempts at climbing it, we at last succeeded in reaching the nest and were very much pleased to find three eggs awaiting us. They were perfectly fresh and in splendid condition. The eggs were placed in a deserted Crow's nest, which contained only a few leaves and sticks, and they seemed to have been placed there by the owls. The parent birds were shot and identified as being of the typical variety.

We were further rewarded by finding four nests of this species during the day, two of which were placed in hollow trees. The nests contained two and three eggs respectively, and in no case did I find four. Two of the sets were far advanced in incubation. I take from two sets in my collection the following measurements of the eggs: First of two eggs, 2.00 x 1.63; 1.98 x 1.65, and the other of three eggs, 1.95 x 1.60; 1.95 x 1.62 and 1.98 x 1.60.

The *Strix nebulosa* is a very rare bird for Cooke County, so their nests are not easily obtained.

I see that in a recent number of THE ORNITHOLOGIST AND OÖLOGIST Mr. Singly speaks of the nesting of the Florida Barred Owl (*Strix nebulosa alleni*) in Lee County, Texas. This species is much more common in Cooke County than the typical variety, and in five birds out of six taken they prove to be *Strix nebulosa alleni*. I have never taken eggs of either species in this county (Cook), but am in hopes of adding several sets this season, as I have located as many pairs of birds.

◆

Nesting of the Black-throated Blue Warbler.

BY WM. L. KELLS, ONTARIO, CANADA.

The favorite habitation of the Black-throated Blue Warbler (*Dendrœca cœrulescens*) is high, hard-wood-timbered lands, where there is a thick growth of low underbrush, and while the males seek an elevated position among the leafy boughs for the display of their musical talents, the females usually select a lowly site for the cradle of their progeny.

For some years past I had suspected that this species bred in this vicinity from the fact that the song notes of the male were heard warbled with much animation at a period that I knew must be its nesting time, though from the elevation whence the bird sang, I supposed that the female would be also "high" in her nesting habits. On the afternoon of June 5th, 1886, however, when searching for the nests of other species in a piece of low, thick underwood, in the high woods, I discovered a nest with one egg, which at first I took to be that of a Chestnut-sided Warbler (*Dendrœca pennsylvanica*), so close was the resemblance in size, form, material and position of the nest. The different note of the bird, however, soon attracted my attention, and I waited a few moments until she emerged from the thick foliage and approached the nest. I then saw that she was a different species, and a closer examination of the nest also showed that it was much more compact and firmly put together than that of the Chestnut-sided Warbler, though the eggs in size, form, color and marking seemed exactly similar. The scolding voice of this bird soon brought her mate to the place, but he seemed more disposed to sport with her than assist to drive off the intruder. Both, however, came quite close and from notes then taken I have since identified the species as the Black-throated Blue Warbler (*Dendrœca cœrulescens*). Being anxious to secure this nest and a full set of eggs, I returned four days after and found that it contained three of the Warbler's own eggs and one of a Cow bird *(Molothrus ater)*. These I took and they are now in my collection.

Returning later I found another nest of the same species similarly placed in a small leafy shrub on the edge of a thicket, but containing three young birds several days old, and also one young bird of a Cow bird. In both cases I noticed that the birds in flushing from the nest dropped to the ground and made much commotion among the dry leaves, with the design of course, of drawing the attention of the intruder from the nest.

◆

The Purple Martin in the South.

BY W. B. HINTON, SPRINGVALE, GA.

The annual visits of no bird meet with warmer welcome than those of the Purple Martin (*Progene purpurea*). As a protector of the poultry-yard against the depredations of hawks, he is held in high and general esteem by our farmer friends, who attest their appreciation of his worth by erecting for his reception tall poles from which swing a number of capacious gourds. At this juncture it may be proper to state the curious fact that the Martin prefers a gourd to a box as a nesting place. I have frequently put this matter to a test and invariably had the case settled in favor of the gourd. Why this is true I am at a loss to explain, unless it results from the shape of the gourd being better adapted to nesting puposes — conforming as it does to the shape of the nest. Or, may not the pendent position of the gourd afford greater security against the intrusions of such robbers as the Blue Jay (*Cyanocitta cristata*), Loggerhead Shrike (*Collyris ludovicianus*) and the common house cat?

If there are among your Northern readers any not familiar with the primitive method before mentioned, of providing homes for the Martin, and who would like to make a trial of it for the mere sake of variety, let them procure a half-dozen or more gourds, not less each than six inches in shortest diameter, and about three inches from the bottom, holes just large enough for the easy ingress and egress of the desired occupants, and with strong strings passed through the necks of the gourds, tie them closely and securely to the outer ends of the horizontal limbs of a pole, not forgetting in the preparation of the gourds to bore two or three gimlet-holes in the bottom to drain off the water during severe rains.

In this latitude (31° 45′) the Purple Martin arrives regularly by the first day of March, the first arrival this season being noted by me the 27th of February. On the 22nd of February it was reported that a pair had that morning been seen upon the pole in my garden, but as the birds did not come under my personal observation I will not venture here to commit the arrival to record. Had I seen the birds, however, I should not have been surprised, for the peach and plum had been in bloom nearly two weeks, and the maple was red with blossoms.

The most interesting period of the Martin's stay with us, embraces the interval between the date of arrival and the commencement of nidification. During those six or eight weeks he is all fuss and flutter, each member of the colony endeavoring to make more noise than his neighbor, and each is eminently successful. It is pleasing to watch them rise to the upper air for the purpose of feeding, then suddenly furl their wings and pitch head-long for the pole from a point at an angle of forty-five degrees and at a height of three or four hundred feet. The entire descent is made with wings closed tightly against the sides; and often the most graceful deflection from a direct line is accomplished in order to reach the entrance to a gourd or a box that may chance to be in a position contrary to the point of descent. In these aerial races, for they are nothing else, I have observed that the bird which arrives earliest in the spring and makes first choice of a nesting-place, always leads, seeming to be afraid that some other member of the company will out-strip him, seize and take possession of his own particular property. This leader invariably terminates his descent only by plunging into his little room, as if to renew his claims and assert anew his right of possession; but he no sooner enteres than he emerges again and is as light hearted and garrulous as before.

The gregarious nature of these little birds is food for thought to the ornithological student, while the perfect harmony in which they dwell together is a characteristic that must attract the attention of the most thoughtless observer. Being sensitive to cold they not infrequently suffer in consequence of the cool weather that sometimes succeeds their early arrival. After a cool spell of wind and rain once that lasted two or three days, I counted ten emerging one behind another, from a single large gourd.

About the first of May nest-building begins; a piece of labor that devolves mainly upon the female, her liege in his suit of glossy black escorting her with clownish gallantry back and forth in search of building material. An examination, for many seasons, of the old nests reveals the information that thin scales of pine bark constitute the body of the nest, to which a few grass straws and fine bits of weed are added. I would be glad to know what material they employ in lieu of the bark in divisions of the country where the pine does not grow. If the male manifests his industry in constructing the nest, I am not sure that he does not exhibit more daring in the defence of the young; though both birds display admirable courage when attacking a foe. Nor do they wait until they have hatched before giving proof of their prowess, but are willing at any season to wage war upon a recognized enemy. I witnessed one, yesterday afternoon drive a Sparrow Hawk (*Falco sparverius*) before him at a furious rate.

ENTOMOLOGY.

J. A. WRIGHT.

265 No. Beacon St., Brighton, Mass.

ASSOCIATE EDITOR.

Address all communications for this department as above.

A Curious Home.

BY L. E. HOOD.

Although I have never made the study of the habits of ants a specialty, yet I never tire of observing them and am ever eager to read accounts of their remarkable instinctive habits at home and abroad.

The following was a personal observation while collecting coleoptera in Western Connecticut about ten years ago, and while there may not be any special scientific value in recording it, I think it will at least be of interest to the lover of nature.

I was collecting not far from Stamford, when I was enticed out of my path, by seeing a fine old oak not far away. Using my hatchet I began to cut off the bark after beetles, when to my surprise, a blow near the base of the trunk broke through, and I saw that the tree was hollow and fairly alive inside with ants. Trying with my hatchet, I found the ants had closed up a former entrance into the tree trunk, by a liberal use of mud and small pieces of wood, in so ingenious a way, no one would ever suspect that a colony of ants had formed a habitation within.

I had so shattered their masonry that I lost some interesting points, but I saw enough to impress me greatly with the sagacity they had shown.

There were two entrances to their home; one through a small crevice left at one side of the ancient entrance, and the second a foot below, at the ground.

This hollow tree had been the home of a fairly large animal at some remote period, as shown by the remains of a skeleton, now forming part of the foundation for the nest. The skull itself being partly uncovered by the blow that discovered the nest to me, lay at the bottom of the hollow and was very white and clean. As it lay in the nest they used it as a means of egress from some chamber to the main gallery that led from the outside entrance, into the more remote interior, coming out of the chamber through the eye of the skull.

I did not wish to destroy the nest even to learn more of their home, but I watched them for some time and though at first there was a great rush and excitement they soon settled down and before half an hour had passed, hundreds of ants were busily at work repairing the damage done by my hatchet, and I do not believe many hours passed before they were again in safe quarters.

Field and Home Work.

BY PAUL REVERE.

The naturalist's busiest season is at hand. Field work and home work take all the entomologist's spare time. High, dry and windy places are not good places to search for butterflies. They linger near moist places, low valleys through which runs a river or brook, and table lands dotted with ponds and springs. *Satyrus alope* loves to skim the water as well as the swallow, and it is not unusual to see him flying across rivers and occasionally touching the water, along the Massachusetts coast. I at first thought this practice evidence of fatigue, but after I had seen several of these flies rise twenty feet in order to clear the sail of a passing boat, just after having touched the water, and not settle to the surface again but make for the opposite bank, I put it down as a sportive indulgence.

How the Vanessas like mud and the Melitæas and Argynnis swampy places, and it is here that the lepidopterist must seek them.

The new man at the business is apt to try to run down his 'flies. This is exhaustive and unprofitable work. Besides wearing out the hunter, it frightens the game and makes them more shy. An entomologist needs agility, it is better in a quick and well directed sweep of the net than in the legs. Even rarities are more likely to be captured by watchfulness and careful movements than by the dash of a racer.

The Vanessas are best netted by waiting. They have a habit of returning in a few minutes to the spot from which they have been frightened. I have missed one four times at a mud hole and bagged him the fifth time he returned; to chase one is folly. Whether they leave mud or flower, they go as if they never intended to come back. They return with the same dash. This tribe of butterflies manifests more curiosity than any other I know of. I have had one foil me by lighting on my net the third time he returned. They seem to love adventure and mock at fear. This knowledge of their habits makes their capture easy.

The search for 'flies and larvæ goes hand in hand, and receptacles must be kept at home suited to the caterpillars. For ground-feeding larvæ a window box is the thing. Knock together a rough box to fit an attic window, drain it well and put therein turf, which will nurture plantain, voilets, clover and purslane, as well as grass; make a screen for it and then cast all the ground-feeders as fast as captured, into it.

Nail kegs, with coarse cotton cloth covers make good and cheap places for feeding the larvæ of the larger moths. Fresh food and pure air must be provided larvæ; but they flourish better without than with sunshine.

It takes ingenuity, keenness and diligence to succeed as a lepidopterist, and in no calling do these qualities serve a person better.

Sphingidæ of New England.

SPHINX KALMIÆ ABB.

Head creamy-white, with a patch of chestnut-brown on the top next the thorax and a stripe of the same color along the eyes. This stripe extends along the palpi, which are otherwise of a whitish color. Antennæ white beneath, light chestnut-brown above.

Thorax above, chestnut-brown with a black stripe on either side running forward from the shoulder tufts, which are black, surmounted with grayish. Another black line borders the chestnut color and separates it from the whitish or clay-colored stripe which occupies the sides. Under side whitish, with a dark brown stripe, edged with a lighter shade, extending from beneath the wings to the eyes.

Abdomen chestnut-brown, with a black dorsal line, and on either side a broad black band, within which, a white spot at each segment. Under side whitish, with three or four black spots along the centre, and a light brown band on either side.

Anteriors light yellowish-brown, with a dark brown shading on the inner and costal edges; the basal portion of the spaces between the second and third and third and fourth median veinlets, are each marked with a brownish stripe; discal spot small and brown; apical streak dark brown edged above with whitish. A whitish streak crosses the ends of the veinlets along the marginal space and is preceded and shaded by a dark brown streak, which runs from the first median veinlet to the anal angle, where it connects with the band on the inner edge.

Posteriors yellowish-white, with a dark brown central and marginal band.

Fringes on both pairs light brown, spotted with white.

Under side of all the wings light rusty brown, with a slightly darker band along the margins, and an indistinct dark central band. The bases of both wings are lighter, that of the posteriors being almost white.

Expands about four inches.

The larva is apple green, with the head marked with a black lateral stripe. The sides of the abdomen are marked with seven oblique whitish stripes, shaded below with yellowish and above with dark blue. Caudal horn light blue, with black tubercles, anal extremity marked with black spots.

Food plants, mountain laurel, lilac and ash.

◆

Locality Boxes.

The following may be a pleasant suggestion to some entomologists who do not make a large collection. I used to collect spasmodically and mark my boxes with the name of the locality, and though of little use in a scientific sense, I found it made a very pleasant collection to look over with some of my more scientific friends. I did not confine my attention to perfect insects only, but collected often a full series of them together with the food plant. My old "Mt. Washington" box was quite a treasure in its way, and was supplemented by a big one marked "Hermit Lake and Tuckerman's Ravine."

Bob.

◆

Notice.

CHANGE OF PUBLICATION.

The Bristol Ornithological Club would return many sincere thanks for the liberal support tendered them, upon the annoucement of an intended publication by the Club. Arrangements were made May 2nd, with Mr. Frank B. Webster, by which The Ornithologist and Oölogist, commencing with the July issue will pass into the possession of the Club and become their official publication.

It will be increased in size at no advance in price. As the Entomological Department will be discontinued, any subscriber who may desire the magzaine for that department will have their money refunded upon request.

Mr. Frank B. Webster, will act as publisher for the Club, and the office of publication will remain the same, and all subscriptions should be sent as usual.

All who have sent money for the intended Quarterly Bulletin, and are subscribers to the Ornithologist and Oölogist, will have their money promptly returned; and new subscribers to either magazine will have their address booked for a period of time proportionate to the sum remitted.

The same editorial staff will be retained with the exception of Mr. Wright, who will retire with his department, and we would say that it was no lack of effort on the part of that gentleman that his department was not a financial success.

Mr. F. W. Andros, will assist us in editorial work on behalf of the Club and it is proposed to make this magazine more efficient than ever and we trust this arrangement will more than please our readers.

◆

Buff-breasted sandpiper. A male of this species was shot in company with some Sanderlings on a sandbar, Ottawa River, by Mr. S. White on the 24th of August, 1886.

Ottawa, Ontario, G. R. White.

Purple Sandpiper. A male was shot on the bank of the Rideu River by Mr. W. Forbes of this city on the 29th of October, 1885, and is now in my collection.

Ottawa, Ontario, G. R. White.

Mr. Elwin A. Capen of Canton Mass., author of *Oölogy of New England* is making arrangements for an exploring trip to the north coast.

We desire to say that our especial correspondent, Mr. Charles F. Morrison, does not exchange any of his present collection of Colorado birds or eggs.

S Bangs

JUNE, 1887.

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A Collecting Trip in Texas.

BY G. B. BENNERS, PHILADELPHIA. PA.

(Concluded from page 69.)

Ortyx virginiana texana, Texan Quail. Very common all over the state. In the vicinity of Laredo there are large quantities of prickly pear cactus, and many of these had nests of this bird under them. The sets were not complete when we were there, which was about April 23rd.

We shot a great many of these birds for food, and I noticed that their plumage was always lighter, and the eyes of the feathers smaller than in the Northern *Ortyx virginiana*. The inhabitants of Texas did not regard them as of much account as an article of food, but we found them excellent.

Callipepla squamata, Scaled Quail. On April 23rd, 1884, the thermometer was 120° in the shade. It was one of the hottest days we experienced while in Texas. On that day, at Laredo, we shot the only five specimens of this bird we saw during our stay. They were very shy, and hid among the cacti, which latter were nearly impenetrable. They ran among these and never took wing. Their note was a single long drawn low whistle, and when uttered seemed as if it came from a long distance off. At Laredo they are considered rare, and are seldom seen.

Ardea occidentalis, Great White Heron. Rather common on the Gulf coast. We found them breeding on Padre Island. The nests were large and bulky, and built of sticks, with no lining. They were flat and carelessly made, and placed in Scrub Oak trees. The eggs were always four.

On May 22nd the sets were complete, as was also the case with the other heron's nests that we found.

Ardea herodias, Great Blue Heron. The commonest heron we saw in Texas. It breeds on the small island off the coast, near Corpus Christi. The nest resembled that of the Great White Heron, and the eggs were generally four in number.

Garzetta candidissima, Snowy Heron. This species was found breeding in the same locality as the last. The nests were in Scrub Oak trees, and sometimes on the cacti; and the eggs usually four.

Dichromanassa rufa, Reddish Egret. This heron breeds like the preceding ones, in colonies, in the same localities. Nests similar; eggs four. We found birds in the white plumage breeding those having the reddish.

Florida cærulea, Little Blue Heron. Also found breeding in colonies. Eggs four.

Nyctiardea grisea nævia, Black-crowned Night Heron. Found to be less plentiful than the preceding herons.

Nyctherodius violaceus, White-crowned Night Heron. This species we found breeding on the mainland in Nueces County. Many nests, found May 22nd, contained eggs badly incubated.

Ardetta exilis, Least Bittern. Not common. A few seen in Nueces County. One set of five eggs found, the nest being built on the top of the reeds of a salt marsh.

Tantalus loculator, Wood Ibis. Not common. We observed a few of them on a fresh water marsh near Corpus Christi, but they were so shy that we could not get within shooting distance. I heard, on good authority, that they bred in that neighborhood.

Eudocimus albus, White Ibis. Very common. On May 18th we shot our first specimen on the Nueces River. Said to breed in that locality.

Plegadis guarauna, White-faced Glossy Ibis. Several of these birds were seen near Corpus Christi. They seemed to keep near the fresh water ponds in preference to the salt ones, although the White Ibis did not make this distinction. They were so shy that we did not succeed in shooting any.

Ajaja rosea, Roseate Spoonbill. On May 11th we shot the first one of this species, on the Nueces River, near Corpus Christi, while it

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was feeding among the weeds on the bank of the river. Another one was procurred the same day in that locality. They were both males; but on May 18th we got six more splendid specimens — two females and four males. They were extremely shy, and the only way that we could shoot them was by crawling through the reeds. This mode of progression was very slow, as it took us about two hours to go three hundred yards!

I noticed one of these birds while feeding, and after it caught a fish it would beat it against the water before swallowing it. This was done apparently for the purpose of killing the fish.

We wounded one of these birds and kept it for several hours, during which time it only gave a sort of *cluck* like a hen. We were informed that they bred in colonies on the Brazos River.

Hæmatopus palliatus, American Oystercatcher. We saw a number of these birds at Corpus Christi, where they breed on the small islands in the bay. They were mated and had commenced to lay when we were there. The nest is a mere hollow in a shell beach, and nearly always among the oyster shells.

Strepsilas interpres, Turnstone. Common at Corpus Christi, where we shot several. One of the latter was a good many miles out on the water, sitting on some floating weeds. This struck us as being very peculiar.

Squatarola helvetica, Black-bellied Plover. Rather common at Corpus Christi, but very shy. We shot some very perfect specimens, in which the black part of the plumage was entirely unmixed with white, and covered the whole underneath of the body. They frequented the salt meadows, and were found in company with the American Golden Plover, (*Charadrius dominicus*) and the Red-breasted Snipe, (*Macrorhamphus griseus*).

Charadrius dominicus, American Golden Plover. Quite numerous at Corpus Christi, but so shy that they kept out of gunshot.

Ægialites hiaticula, Ringed Plover. Tolerably abundant at Corpus Christi. They breed in the sand on the beach of Nueces Bay. The nest is scooped out in the sand, with no lining, and they lay from three to four eggs.

Ochthodromus wilsonius, Wilson's Plover. Quite numerous at Corpus Christi. We saw several pairs who had made their nests in a grass plot which was attached to an unused factory, and were told that they returned there year after year.

Macrorhamphus griseus, Red-breasted Snipe. Seen in large flocks, in company with Black-bellied and American Golden Plovers, on the salt meadows near Corpus Christi, where we shot a few specimens, after a good deal of exertion.

Symphemia semipalmata, Willet. Common at Corpus Christi, where they bred in the salt marshes of Nueces Bay. They were very tame and allowed us to get within ten or fifteen feet of them, and when they were on their nests we got even nearer. They seemed to act as sentinels for the larger birds, such as Pelicans, Comorants and others, for the latter would at once take wing when the Willets uttered their cry of alarm.

Three nests which we found each contained four eggs, which appear to be out of all proportion to the size of the bird. The nests were quite shallow, and were found among the grass. They were about nine or ten inches in diameter and very cleverly concealed.

Bartramia longicauda, Bartram's Sandpiper. Very common in Comal County, and also at Corpus Christi. At the former place we found immense flocks on the prairie, and they were so tame that the flock would part in the middle and let us drive between them. We often shot enough birds while going through a flock in this way to last for several meals. When they thought we did not see them they would stand perfectly still, and being the same color as their surroundings they easily escaped detection. At Corpus Christi we found them in the same abundance, but somewhat shyer. They do not breed in that locality, but up to the 24th of May they were still there, and had not started on their northward migration.

Numenius longirostris, Long-billed Curlew. Seen in large flocks on the salt marshes near Corpus Christi. They appeared to be very tame, and were easily approached within shooting distance.

Numenius hudsonicus, Hudsonian Curlew. Rather common at Corpus Christi. We also saw a few in Comal County, on the banks of a pond; and in going from Laredo to Corpus Christi, on the railroad, we noticed large flocks at every water hole that we passed.

Recurvirostra americana, American Avocet. A few seen on the Nueces River, where we were told they bred.

Himantopus mexicanus, Black-necked Stilt. A number of pairs observed near Corpus Christi, where they were breeding. I found a nest, containing five eggs, on a small island in Corpus Christi Bay. It was on the ground among tall reeds, and well concealed. There were only one pair of birds in the vicinity, so that the five eggs must have been laid by the one bird.

Rallus longirostris crepitans, Clapper Rail. Shot one bird and found a single nest containing three eggs of this species, on Padre Island. The eggs were perfectly fresh and when cooked they proved to be excellent.

Ionornis martinica, Purple Gallinule. Several were seen among the reeds on the Nueces River.

Grus americanus, Whooping Crane. We saw immense flocks of these birds on the praries in Williamson County. They allowed the locomotive to approach quite near to them. They were also observed in Comal County, but always out of gunshot.

Grus canadensis. Sandhill Crane. Seen with the Whooping Crane, in the same localities.

Chen hyperboreus, Snow Goose. We saw a large flock of these on the Nueces River, and noticed two in dark plumage.

Anas obscura, Black Mallard. The only duck we found breeding at Corpus Christi. The nests were built on the edge of the river's bank and were so carefully concealed that if the birds had not flown up we would never have noticed them. The three nests that we found each contained only two eggs, as they had evidently only commenced laying.

Dafila acuta, Pintail. On May 20th I saw a flock of these ducks on the Gulf, near Corpus Christi.

Spatula clypeata, Shoveller. Two fine specimens shot on April 10th in Comal County, near a water hole.

Fulix marila, Scaup Duck. Seen on May 20th in large numbers on the Gulf. We shot several.

Clangula glancium americana, American Golden-eye. Saw several on the Nueces River on May 12th.

Erismatura rubida, Ruddy Duck. The most abundant duck observed at Corpus Christi.

Tacnypetes aquila, Frigate Pelican. At Corpus Christi we saw one of these birds at an immense height, where it sailed for hours over the town. Another was observed at Padre Island.

Pelecanus erythrorhynchus, American White Pelican. Not common. At Corpus Christi we saw them sitting in the salt meadows, and they were afterwards found in company with the Brown Pelican. Our guide informed us that they bred in colonies at the mouth of the Rio Grande River.

Pelecanus fuscus, Brown Pelican. On May 20th, on Pelican Island in the Gulf of Mexico, we found a colony of these birds breeding. The nests were regularly arranged in rows to about the number of fifty. Then came a passage-way, and then another block of fifty or so. The male birds seemed to be generally standing in these passage-ways when not incubating. The nests were on the ground, and were very bulky, being about two feet in diameter, and built to the height of six inches or more. The eggs were far advanced when we were there, and many young birds were seen. We found three eggs in the nest, and two outside. This was always the case, and those eggs which were lying outside seemed to be as much incubated as those which were inside. We also saw birds sitting on some of the eggs which were outside of the nests.

The birds were very tame, and allowed us to approach within a few feet of them while they were incubating, and when they rose to take wing they frequently scattered the young birds out of the nests in all directions, and the latter climbed back into the first nest that was convenient. I am sure that the parent birds did not know their young.

We turned the males to account by chasing them, and when they emptied the contents of their pouches we had a plentiful supply of fish bait.

We estimated that there were fully fifty thousand pelicans breeding on this island, which could not have contained more than thirty acres. They presented a very curious sight as they sat in solemn rows, with their round knob-like heads, and indeed we took them for stakes when we first approached the island.

Plotus anhinga, American Anhinga. A number were observed at Corpus Christi.

Rhynchops nigra, Black Skimmer. We saw these birds sitting in large numbers on the sand bars in the mouth of the Nueces River. Upon our approach they flew around our heads uttering dismal cries. They scooped a hollow in the sand, in which they deposited their eggs. They were from four to five in number.

Larus atricilla, Laughing Gull. Very common on the coast, and they bred on the salt meadows near Corpus Christi.

Larus franklini, Franklin's Gull. Rather rare. Saw a few at Corpus Christi, and shot two.

Sterna anglica, Gull-billed Tern. Found breeding on Pelican Island, where they were common, laying their eggs on the bare sand.

Sterna caspia, Caspian Tern. These birds breed on the upper end of Pelican Island, where we found them in a large colony. Their nests were a mere hollow in the sand, and they contained from two to three eggs, the majority of them three.

Sterna regia. Royal Tern. On May 19th we found this species breeding on a small island near Corpus Christi. They were rather a rare bird there, and we only found two sets of their eggs, each containing two. I was informed that this was the usual number.

Sterna cantiaca acuflavida, Cabot's Tern. Rare at Corpus Christi, but they breed in that locality. We saw several specimens on Pelican Island, and shot two.

Sterna forsteri, Forster's Tern. This species breeds on the mainland near the mouth of the Nueces River. They build a regular nest of reeds and grass, and conceal it in the long grass. We never found more than two eggs in a set.

Sterna antillarum, Least Tern. Common in Nueces County, and at Corpus Christi they bred in front of our boarding-house on the sand beach. They lay their eggs in hollows in the sand. One set was found in a clam shell. Two was the number we always found.

Sterna fuliginosa, Sooty Tern. Rather rare. We saw them only in one place, and that was on an island in the Gulf. Here they bred, and made a very complete nest. It was hidden in the long grass under bushes. We never found more than one egg in a nest, and we were informed by a good authority that that was all that they laid.

The captain of our boat cooked the eggs of this bird and made an excellent omelet, which we ate with pleasure, until we found out what it was composed of, when we promptly put a stop to his proceedings and collected some of the eggs ourselves.

A List of the Birds of Fulton County, Kentucky.

BY L. O. PINDAR, HICKMAN, KY.

Conusus carolinensis. Carolina Paroquet. (392.) Prof. Caldwell said he used to see a small flock every summer four or five years ago, (1886.)

Coccyzus americanus. Yellow-billed Cuckoo. (387.) One killed July 8, 1886. One seen Aug. 9, 1886. Another seen Sept. 12, 1886.

Coccyzus erythrophthalmus. Black-billed Cuckoo. (388.) Not common.

Ceryle alcyon. Belted Kingfisher. (382.) Common summer resident. Arrived in 1886, on Feb. 22.

Dryobates villosue. Hairy Woodpecker. (360.) Resident. Not common. May be of the southern variety, *auduboni*.

Dryobates pubescens, Downy Woodpecker. (361). Common resident.

Sphyrapicus varius, Yellow-bellied Sapsucker. (369). One secured Nov. 20th, 1886.

Ceophloeus pileatus, Pileated Woodpecker. (371). Resident. Not uncommon.

Melanerpes erythrocephalus, Red-headed Woodpecker. (375). Common. Found here except in the latter part of December and the early part of January.

Melanerpes carolinus, Red-bellied Woodpecker. (372). Common resident.

Colaptes auratus, Flicker. (378). Common resident.

Chordeiles virginianus, Night-hawk. (357). Common migrant.

Chætura pelagica, Chimney Swift, "Swallow" or "Sweeper." (351). Common summer resident.

Trochilus colubris, Ruby-throated Hummingbird. (335). Common summer resident. Gregarious. Arrived Apr. 30th, 1886.

Tyrannus tyrannus, Kingbird. (304). I have seen it several times during the summer.

Contopus borealis, Olive-sided Flycatcher. (318). Three seen Sep. 2nd, 1886.

Contopus virens, Wood Pewee. (320). One seen Sep. 26th, 1886.

Empidonax pusillus trailli, Traill's Flycatcher. (325). Common summer resident. Arrived May 16th, 1886. I have seen this Flycatcher catch up insects from the surface of a pond.

Cyanocitta cristata, Blue Jay. (289). Common resident.

Corvus americanus, Am. Crow. (282). Common resident.

Dolichonyx oryzivorus, Bobolink. (257.). Prof. Caldwell gives it as a common migrant.

Molothrus ater, Cowbird. (258). Said to have been formerly common.

Agelaius phœniceus, Red-winged Blackbird. Rice-bird. (261). Common migrant.

Sturnella magna, Meadow Lark. (263). Common resident.

Icterus galbula, Baltimore Oriole. (271). Common summer resident. Arrived Apr. 19th, 1886.

Quiscalus quiscula, Purple Grackle. (278). Common Resident. Abundant during migrations.

Acanthis linaria, Redpoll. (179). Ten or eleven seen Dec. 10th, 1886, and large flocks the next day.

Spinus tristis, Am. Goldfinch. (181). Common in summer. Cannot say whether it winters or not.

Chondestes grammacus, Lark Sparrow. (204). Two seen May 22nd, 1886.

Zonotrichia albicolis, White-throated Sparrow. (209). Common winter resident. Arrived Oct. 23rd, 1886.

Spizella monticola, Tree Sparrow. (210). One secured out of a large flock Jan. 30th, 1886.

Spizella socialis, Chipping Sparrow. (211). Common resident.

Spizella pusilla, Field Sparrow. (214). Common resident.

Junco hyemalis, Slate-colored Junco. (217). Common winter visitant. Arrived Oct. 21, 1886.

Melospiza fasciata, Song Sparrow. (231). Common winter visitant.

Passerella iliaca, Fox Sparrow. (235). One seen Dec. 9th, 1886.

Pipilo erythrophthalmus, Chewink. (237. Common winter visitant. Arrived Oct. 16th, 1886.

Cardinalis cardinalis, Cardinal Redbird. (242). Common resident.

Habia ludoviciana, Rose-breasted Grosbeak. (244). Mr. A. J. Taylor shot one and gave it to me in the fall of 1885.

Passerina cyanea. Indigo Bunting. (248). Common summer resident. Arrives May 7th, 1886.

Spiza americana, Dickcissel. (254). One seen Sep. 12th, 1886.

Piranga erythromelas, Scarlet Tanager. (161). One seen in the summer of 1884.

Piranga rubra, Summer Tanager, Summer Red-bird. (164). Common summer resident. Arrived May 17th, 1886.

Proguesubis, Purple Martin. (152). Common summer resident. Arrived Apr. 9th, 1886.

Petrochelidon lunifrons, Cliff Swallow. (153). One seen June 21st, 1886.

Chelidon erythrogaster, Barn Swallow. (154). Common summer resident.

Chiricola riparia, Bank Swallow. (157). Common summer resident. Arrived Apr. 9th, 1886.

Ampelis cedrorum, Cedar Waxwing. Paroquet. (151). Winter visitant. Arrived Sep. 11th, 1886.

Lanius borealis, Great Northern Shrike. (148). Prof. Caldwell says he has seen it in winter.

Vireo olivacens, Red-eyed Vireo. (135). Common summer resident. Arrived May 6th,

Vireo noveboracensis, White-eyed Vireo. (143). Common in the fall of 1886.

Mniotilta varia, Black and White Warbler. (74). A not very common summer resident.

Dendroica aestiva, Yellow Warbler. (93). Common summer resident in 1884 and 1885, but only a few noticed in spring and fall in 1886.

Dendroica coronata, Myrtle Warbler. (95). Secured Jan. 16th, Sep. 21st and Sep. 23rd, 1886.

Dendroica dominica albilora, Sycamore Warbler, (103). Three or four seen Sep. 6th, 1886.

Dendroica virens, Black-throated Green Warbler. (107). One secured Sep. 21st, 1886.

Siurus noveboracensis, Water Thrush. (116). Seen Aug. 19th and 24th, 1886.

Geothlypis formosa, Kentucky Warbler. (119). One seen Nov. 28th. 1886.

Geothlypis trichas, Maryland Yellow-throat. (122). Common summer resident. Arrived May 7th, 1886.

Sylvania canadensis, Canadian Warbler. (127). Very common in the fall of 1886.

Mimus polyglottus, Mockingbird. (11). Common resident.

Galeoscoptes carolinensis, Catbird. (12). Common summer resident. Arrived Apr. 19th, 1886.

Harporhynchus rufus, Brown Thrasher. (13). Common summer resident. Arrived Apr. 18th, 1886.

Tryothorus ludovicianus, Carolina Wren. (60). Several seen in the fall of 1886.

Troglodytes aëdon, House Wren. (63). Common resident.

Troglodytes hiemalis, Winter Wren. (65). One brought to me in the fall of 1885 by Mr. T. L. M'Cutchen.

Certhia familiaris americana, Brown Creeper. (55). Common winter resident. Arrived Sep. 21st, 1886.

Sitta carolinensis, White-breasted Nuthatch. (51). Common resident.

Sitta canadensis, Red-breasted Nuthatch. (52). Common winter resident. Arrived Nov. 16th, 1886.

Parus bicola, Tufted Titmouse. (39). Common resident. Will enter a trap baited with bread. So will the next species.

Parus atricapillus, Chickadee. (41). Common resident.

Regulus calendula, Ruby-crowned Kinglet. (30). One seen Oct 14th, 1886.

Polioptila cœrula, Blue-gray Gnatcatcher. (27). A not uncommon summer resident.

Turdus mustelinus, Wood Thrush. (1). Common summer resident. Arrived March 25th, 1886.

Turdus fucescens, Wilson's Thrush. (2). Prof. Caldwell gives it as a migrant.

Turdus aonalaschkal pallasii, Hermit Thrush. (56). One seen Oct. 23rd, 1886.

Merula migratoria, Am. Robin. (7). Common winter resident.

A Trip After Golden Eagle's Eggs.

BY J. R. CHALKER, WATSONVILLE, CAL.

Having decided to take a trip after Golden Eagle's eggs (*Aquila chrysaetus canadensis*), on March 7th, 1887, I left my pleasant little room and in true California tramp style, started for San Benito County.

Now the true California "rusticator," as tramps here are called, always pack their own blankets and sleep where night overtakes them — that is my style; I pack my own blankets, rifle, hatchet, spy glass and egg box, and sleep where night finds me.

On March 7th, with my pack on my back, I started over the dusty road that took me to San Juan. Having heard from a friend of mine an eagle had a nest on some high rocky cliffs this side of San Juan, I determined to find it. I at last saw a couple of eagles flying swiftly toward a high steep rock, and one of the birds lit on what appeared to be a jutting ledge on the face of the cliff. With my spy glass I saw it was a nest. Walking to the bottom of the mountain and laying down my load, I started for the top, smiling to think of my luck the first day, and wondering if I could not find a hiding place to stow the eggs away, until I returned at the end of my trip.

With these thoughts in my mind I hurried up the hill, and as I approached nearer and nearer the cliffs, the higher it seemed to grow.

At last standing under the cliff I could see the nest was an old one of last year's or more, but I noticed in the bottom of a small cave in the face of the cliff the edge of a new nest, and up above another nest. After a good look from below I went above on top of the rock, and I could then see in one of the old nests, but I also quickly saw there was no way of getting to the new nest from above, and I quickly concluded I could not walk up the almost perpendicular rock to the nest above some thirty or forty feet; so returning to my pack I thought it would not be necessary to find a hiding place to put the eggs away, and I also concluded no other person would disturb them just at present.

Shouldering my pack I walked the rest of that day, and camped at night under a water tank, where I slept in a straw stack, as the harvest hands in this country do. That night I did some lofty thinking about that eagle's nest, and concluded that in time, by means of a drill and some dowels, I could reach the nest.

In the night I awoke, and near the water tank was an Old Barn Owl flying, and the moon was shining brightly, while the coyotes were singing or fighting (hard to tell which), on the hill sides of the Gabilan Mountains. The beautiful San Juan Valley seemed asleep. It was a lovely night.

I awoke very early and started for the San Benito River, and having shot a rabbit I intended to roast it for dinner. After crossing the San Benito River, and climbing over numerous barb wire fences, I reached the eagle's nest of last year, from which I took the handsomest set of eggs I ever saw, and from which I expected to obtain another set this season; but my calculations were in vain, for the nest was ragged and partly torn down. Continuing my journey I arrived at Tres Pinos at 3 p. m. and camped near the town.

Having purchased supplies for the next few days I determined to take a trip next day to a nest I found on April 5th, 1886, which then contained two young eagles that had been hatched a week or so before. At the time I found the nest last year the eagles were about the size of pigeons, and covered with white silvery down. They were curious looking objects, with their big heads, bills and eyes; and did not seem to know just what to make of such a looking creature as I climbing up the main body of the tree beside them; for the nest was placed on a limb a few feet from the main tree. On the nest side of the young birds were two freshly killed and partly eaten squirrels, and the egg shells that had not as yet been removed. Later, on May 3rd, I climbed to this nest to take a last look at the young birds and found them grown very large and nearly full size, and the only change in the plumage was that the primary and secondary quills had grown about an inch long. The young birds did not seem to take much notice of me and one concluded to go to sleep, but the other fellow thought I better be watched. I was up in the tree more than thirty minutes, and the old birds now and then flew around at a distance of one hundred yards or more, and then would occasionally light on an old dead tree high up on the side of the mountain.

On the 9th of March, of this year, I left Tres Pinos to go to this nest, and arriving there I found the nest torn down and no new one started; so after wandering around for two or three miles to an old nest built years before, I was surprised to see an eagle light on an alder bush, and after taking a good sized limb in her bill, snap it off and fly away, carrying the limb in her bill and depositing it on the old nest. I visited this nest again on March 16th, but it had apparently been forsaken.

I hunted till March 11th, before I obtained my first set of Golden Eagle's eggs. I had been watching a pair of eagles all the morning with my glass, and had walked till I felt tired. While sitting under a tree I saw an eagle going through the diving process; which consists of a series of downward pitches with the wings closed, to be then suddenly opened and shoot upward. This seems to be an act of joy, as they frequently utter their musical cry just before or after this process. I have noticed that this act is committed just after the female leaves the nest or just before she goes on. Going over the next ridge I saw the female go through the same operation, and then swoop down and light in an oak tree. With the aid of my glass I could see her on the nest. She flew off when I got within a hundred yards, and left me to my own investigations. After climbing to the nest, which was very small, (not larger than an old Red-tail Hawk's nest), I saw it contained two nice eggs, which I lowered to the ground in my handkerchief; and then measuring the string I found the nest was forty-five feet in height from the ground. It was composed of large sticks, with a lining of dried grass, green twigs and a few feathers. This was the most shapely and compact nest I have ever seen that was built by a Golden Eagle. The eggs were of the usual shape, and the markings on each were quite different. One egg is quite light, having a white ground color covered with thick lilac spots and blotches, with only a few blotches of dull reddish brown near the smaller end. The other is apparently free from any lilac markings, but is thickly covered with reddish brown spots, being confluent on the smaller end in one mass of reddish brown. This set of eggs was slightly incubated.

On March 15th, having been down the country a long distance, and finding nothing, I concluded to return by way of Tres Pinos and take one more trip to Santa Anna foot hills and vicinity. On the 16th I went for an all-day's walk over the rough country near Santa Anna Peak, and after walking till nearly night I noticed an eagle fly from a steep hill that had a few live oak trees growing from its side. I looked it over with my glass and found a bunch that looked familiar; and while going to it, and very near it, the eagle flew from the nest. This was in a live oak tree and was much larger than the first nest I found. The eggs of this set were quite different from one another, one being lightly, and the other darkly marked. This set was slightly incubated.

With two sets of eggs I determined to go home, and starting in the evening I walked to an old barn and took possession, for I preferred to be under cover the way the weather looked.

Next morning by crossing the San Benito River I headed for the Gabilan Mountains. After walking all the morning I was surprised to hear an eagle cry, and I quickly got out my glass. Resting it over a convenient post I located him in the top of a live oak tree, where I could see his head sticking out among the leaves. After he had screamed once or twice he raised his wings and flew away over the ridge. After looking at all the principal trees I decided the nest must be in a big live oak tree on the north slope of the hill; and after looking in most of the other trees I came to the right one, and saw the nest in a crotch by the side of the main trunk of the tree. It was completely hidden from outside view by the thick foliage of the tree. Rapping on the tree with my hatchet the female flew from the nest. Having climbed to the nest I was astonished, for before me lay two white eggs. Never having seen or heard of a Golden Eagle laying white eggs, I thought I had a great curiosity. This nest was forty-two feet from the ground, and was of large size and composed of sticks, dried grass and a few feathers, but no green twigs. This set of eggs was slightly more incubated than the others I found. One egg is pure white while the other has a few reddish brown markings on the smaller end. While sitting under the tree blowing the eggs, the old bird returned and lit over my head near the nest, and I had a fine view of one of our noblest birds. No bird to my mind can excel the Golden Eagle in dignity while perching, or in graceful motions while on the wing; now sweeping in graceful motions round and round, higher and higher until lost in the canopy of Heaven, and again with slow and steady beat crossing from peak to peak, he alights on some high crag and sweeps the valley with his fearless eye.

When I arose from the ground she flew away, and I made my way to the old historic town of San Juan, and went to the village blacksmith and at once set him at work on a rock drill.

Here I met with fun. The day being cloudy and foggy most of the Mexican and white population of the sleepy old town were in and near the shop, and of course, I being a complete stranger, and with nearly all the tools of a

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DESIGNED AS A MEANS FOR THE INTERCHANGE OF NOTES AND OBSERVATIONS ON BIRD AND INSECT LIFE.

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mountain bandit, I excited no small amount of curiosity. The idea of my wanting a drill made was only associated in their minds with mining, and I very soon began to be the object of many nicely framed questions, all tending to find out what and where I were working, and whether I had struck something rich. After answering some of the questions in a general way to excite more curiosity, and to leave them an item to talk over, I got my new drill and iron dowels and started for the eagle's nest on the cliff.

Having walked a long distance that day I camped early, and determined to get the eggs on the morrow. Next morning, feeling refreshed from a sleep under a shed, I started very early for the cliff. Arriving there I had the pleasure of seeing the sun rise over the Coast Range of mountains. Stripping off my pack I sat down to think and rest, as the climb up hill had given me a good pull. While resting I saw six White-throated Swifts (*Cypselus saxatilis*) flying around, and I presume they also had selected this cliff as a nesting place. Taking my drill and hatchet I began to chip steps here and there, and by this means got up some eight or ten feet to a small platform just large enough to enable me to stand and turn around. Standing, I drilled a hole up as high as I could conveniently reach, three inches in the rock. Then descending I cut from a live oak tree a limb with convenient limbs to step in, and fastening the smaller end to one of my iron dowels I climbed up and placing the dowel in the hole I had drilled, I had a safe and convenient tree ladder. I could drill another hole two or four feet higher, and by using three separate ladders I at length arrived at the nest. (I had drilled two holes before the eagle flew off from the nest). Not being able to look into the nest I pulled part of it away and found among the old sticks, old squirrel bones, and feathers that looked as if they were placed there years ago, and I have no doubt that this same pair of birds have bred there for the last decade. Looking into the nest I saw two darkly marked eggs, and as ornaments one partly eaten squirrel and six meadow mice. These were probably brought to the female by the male for food. This nest was only lined with very fine grass and a few feathers.

Placing the eggs in my side pockets I tied my coat together in a bunch back of my arms, and with care managed to get down safely to the ground. After getting my apparatus down I picked up my traps and having partly blown my eggs I started for home some ten miles off, which I reached by nine o'clock, having had one of the most successful and pleasantest trips of my life. This last set of eggs were well incubated. They were nearly spherical in shape, and were marked with a dull reddish brown color all over in blotches and spots.

Since I arrived from my trip, I have taken another set of Golden Eagle's eggs, which are a curiosity. One egg is pure white, the other brightly marked with reddish brown. The markings are profuse, and the spots and blotches are confluent on the larger end. The nest was in a white oak tree about thirty feet from the ground. It was lined with grass and the long moss so plentiful in California. The measurements of the four sets of Golden Eagle's eggs that are now before me, are; First set taken March 11th: 3 1-32 x 2 10-32, 3 x 2 10-32; second set taken March 16th, have passed from my hands; third set taken March 17th, 3 2-32 x 2 11-32, 3 1-32 x 2 10-32; fourth set taken March 18th, 2 26-32 x 2 11-32, 2 30-32 x 2 10-32; fifth set taken March 29th, 2 30-32 x 2 8-32, 2 27-32 x 2 7-32. Measurements of the lighter egg in the clutch are given first. The shells of all are rough and slightly granulated.

Golden Eagles are in this section growing fewer and fewer each year, owing to the numbers of them that are killed by the sheep herders, who shoot them on every occasion in payment for the numbers of lambs taken each year by these birds.

Arrival of Northern Birds in England.

BY HENRY KERR, BOCUP, LANCASHIRE, ENGLAND.

Though the migration south of northern bred birds commenced as early as the middle of September, yet no genuine oversea visitors were observed in this district — and our valley is a well known migratory route during the vernal and autumn migrations — before the fourth of October, on which date the first flock of fieldfares were seen. Several flocks have been subsequently observed, either nesting and feeding or on their way south for more genial winter quarters. Our mountain bred lapwings generally leave in the last week in August, and not a bird of this species is to be seen till the middle of February, when they again commence to arrive in their breeding quarters. The golden plovers which breed in our moors in more limited numbers stay later than their relatives, the lapwings; but the bulk of the golden plovers seen here in late autumn and winter are visitors from the more northern counties, or Scotland, or immigrants from the continental side of the stormy North Sea, the grave of hosts of migratory birds during the vernal and autumn migrations. The lapwings, like the golden plovers, winter on the western sea coast (the Irish Sea), or in the marshy and peety grounds of South Lancashire and Cheshire, where small lakes, or meres, are numerous.

When a sharp frost sets in, the last of the golden plover and snipe also leave our moorlands, and they are rarely again seen till the succeeding spring. Since the middle of September there has been a steady nocturnal migration over our district, — the birds (the notes of golden plover are not conspicuous) invariably flying west or south-west. Amongst the nocturnal migrants fieldfares and redwings can also be heard, and the occasional "couk, couk" of the wild geese swiftly cleaving their aeriel way north in the darkness. Since the commencement of October up to the 29th (I am writing at this latter date) various flights of wild ducks and wild geese, the latter mostly gray-legs, from the formation of the flocks, have passed over our inland valley, heading west or south-west for the sea coast, or for the marshes and meres (small lakes) of South Lancashire and Cheshire. To-day, the 29th, I saw a large flock of newly-arrived fieldfares feeding in a grass field, or startings. With the aid of a glass I found a number of redwings consorting with their kindred "northmen," the fieldfares, or "fettys,"as they are mostly termed in the North of England.

Owing to the disastrous storm of the 12th of May, which all but exterminated the house martins, chimney swallows and warblers, we have little hawthorn or wild rose fruit this season; so the *Turdidœ* visitors and residents will have to go further south for their favorite food. The lack of wild fruit, especially hawthorn and wild rose berries, is not universal, fortunately, as the all but entire absence of wild berries in some counties will be at least partially compensated by their abundance in other districts. The unseasonable storm of May entirely destroyed the budding hawthorn blossoms in this semi-alpine part of Lancashire and there has consequently been no fruit. As a set off, we have had fairly good crops of mountain ash and elder berries, already nearly cleared off by the birds, residents and visitors. Our missel thrushes seem to be as partial to mountain ash berries as the northern fieldfares.

The first woodcock of the season, a fine plump bird, was shot in this district on the 8th of October. This could scarcely be an oversea bird, especially occuring so far inland, as I learn from correspondents on the north-east and east coasts of England that woodcocks were not observed coming in from the sea till the 11th and 12th of October, and then only subsequently, in small parties. Up to the time of writing, the first "great flight" of woodcocks had not struck our north-east, east and south-east coasts, though the first flight is more than due. Last year the first great flight of "cocks" occurred on October 16th and 17th, wind east and north-east, cold, rainy and stormy. The flight simultaneously struck the east coast of England from the Thames, Northumberland, to Thanet, in Kent. The "great flight" of the season, more restricted in range, extended from the 22nd to the 24th of October, during strong north-east gales. Another flight of this species occurred on the east and south-east English coast in the last week of January in the present year. From the east Cornish coast I learn that woodcocks were first seen and shot in the latter part of September, as they usually are in that part of the country, that is, the first flight generally occurs about the end of September, and the second flight is due on the Cornish coast about a fortnight later.

The woodcock shot in Lancashire as early as the 8th of October could scarcely be an oversea immigrant, judging from the dates of the first arrivals on the north-east coast, the 11th and 12th of October. This bird was no doubt home bred, and it is interesting to note that the woodcock now regularly breeds in North Lancashire, as it indeed does in most English counties from the Tweed to the Lizard. On the east coast of Scotland — often extending, as ascertained by systematic observations, along the entire coast line of Britain — the first flight of woodcocks generally occurs during the first ten days of November. These birds soon pass on, unless "north winds keep them to cover." The second and greatest flight occurs about the middle of December. Since the 11th of October streams of immigrants have been constantly flowing on to our coasts, from hooded crows, woodcocks, green and golden plovers, to tiny gold-crested wrens, our smallest British birds, which cross the North Sea in great numbers in autumn, and recross again in spring to the breeding haunts in Northern Europe.

Sky larks, as usual, have arrived already from oversea in enormous numbers, and the arrival of blackbirds, song thrushes, chaffinches, and other small birds has at the same time been large. Lunn buntings, young birds, have also put in an appearance.

Nesting of the Black-throated Blue Warbler.

BY EGBERT BAGG, UTICA, N. Y.

Mr. John Burroughs, the Rev. C. M. Jones, of Eastford, Connecticut, and the writer, if not the only persons who have found the nests of the Black-throated Blue Warbler (*Dendrœca cœrulescens*), are, as far as my reading goes, the only ones who have thought it worth while to put their discoveries in print. I do not count Audubon's Nova Scotia nest, quoted also by Baird, Brewer, and Ridgway, as it was evidently not correctly identified. The description agrees exactly with the nests of the Black-throated Green Warbler (*Dendrœca virens*) taken by me.

In the year 1884, my friend Dr. William M. Ralph found a large piece of woods near Holland Patent, N. Y., in which these warblers remained during the breeding season. In 1885 a fairly careful search failed to find their nests, but the birds were still there in considerable numbers, though a thorough exploration of all the neighboring pieces of woods failed to find them anywhere else. In 1886 we were more successful, and I think that an account of our experience will be interesting.

To begin with, the piece of woods deserves description. It is one of the largest in the neighborhood, being at least a mile in length, and from a quarter to a half in width. A large part of it is swampy and heavily timbered — the home of the Winter Wren *(Anorthura troglodytes hyemalis)* and the Black-throated Green Warbler (*Dendrœca virens*) both of which we have found nesting there. There is, however, a small tract in it of high and dry ground, nearly, if not quite, surrounded by a swamp. On this knoll, which is covered with large timber standing rather openly, but grown up thickly with brush from three to ten feet high, on the dryest part, where the brush was lowest, and composed almost entirely of sugar maple, we found three of the four nests which rewarded our efforts.

On May 29th, 1886, Dr. Ralph found the first nest. It was placed two feet from the ground in the upright fork of a little maple bush. It was a loose structure, measuring, outside diameter, three inches; inside, one and three-quarter inches; outside depth, three and three-quarter inches; inside one and one-half inches. It was composed of strips of rotten wood, held together and lined with fine black roots, and further secured with a few strips of the bark of deciduous trees. It contained four eggs, which were somewhat incubated, and measured .66 x .50; .66 x .51; .64 x .51, and .64 x .51 inches. They are white, rather sparsely marked with lilac and brown spots and dots, heaviest at the large end. In shape and general appearance they resemble some specimens of eggs of the American Redstart (*Setophaga ruticilla*).

On the same day Dr. Ralph found another nest, just completed, about which he saw the birds, but it was empty. On June 11th we went together to collect this nest, when we found to our disappointment and surprise that it was gone, literally every bit, except one little strand of bark wrapped about a twig. As there were no tracks of any kind, and as not a twig or leaf of the little bush was disturbed, it was evident that it had been taken away, either by the owners, or by some other birds for the purpose of nest building elsewhere. Our own opinion being that the owners had determined to "move house," we carefully searched the knoll again, and were rewarded by finding a nest on which the bird was sitting on a single egg. This we left until the 14th, when, on visiting the nest again, it still contained only one egg. The nest was placed in the upright fork of a little maple, nine inches from the ground, and was composed of the same material as the former one, and measured, outside diameter, three inches; inside, one and three-quarter inches; outside depth, four and a half inches; inside, one and a half inches. The single egg proved to be dried up; undoubtedly infertile, and abnormal, in that the shell was thick and rough in places and very thin in others — in fact in one little spot there was no shell at all, though of course this did not show until the egg was blown. It was a very prettily shaped egg, perfectly symmetrical, rather blunt at the larger end, and tapering to a point at the smaller end. It was pinkish white, and spotted and blotched with darker shades of pink and brownish pink; especially at the larger end, where the spots became confluent, making a perfect wreath. It measured .74 x .56 inches.

After researching the knoll without success, we crossed a large field to a similar piece of woods. It soon commenced to rain, and we were turning our faces towards home, when in crossing a rather open little space on the side of a hill where the ground was dry and grown up with just such brush as the other knoll, I discovered a bird on her nest. She was so tame as to allow me to put my face within three feet of her, and what was my surprise and pleasure to see that she was a female Black-throated Blue Warbler. With a shout which frightened the bird from the nest, I called my companion to me. When he came, however, he expressed some doubt as to the identity of the eggs. Although the nest agreed with the others, the eggs were so different that he could hardly believe that I had not mistaken the bird. So to satisfy him, and to corroborate my eyes, we sat down to wait. In a very few minutes both birds appeared, flitting about in evident distress, and within five minutes the female was on the nest again, and Dr. Ralph was satisfied, especially when he had put his face where I had put mine before, and, as I might say, counted each feather.

The nest was composed of exactly the same materials as the others, put together in the same loose manner, placed a foot from the ground in the upright fork of a little maple, and measured, outside diameter, three and one-half inches; inside, two and a quarter; outside depth, five inches; inside, one and one-half inches. The eggs which were rather more than half incubated, were four in number, and at first gave the impression of being like those of the Nuthatches more than anything else, being pinkish (markedly so before blowing), quite heavily marked and blotched with dark brownish pink, especially at the larger end, and a few fine marks and scratches of a darker color. They were rather blunt at the smaller end, and seemed large for the bird. They measured .75 x .54; .72 x .55; .76 x .54, and .72 x .52 inches. These measurements, however, are no larger than that of the single egg found in the former nest, but the effect was that of larger eggs on account of the shape; and the contents would undoubtedly be somewhat more on that account.

Icteridæ Found Nesting Near Des Moines, Iowa.

BY JAMES B. GREEN, DES MOINES, IOWA.

The following species of *Icteridæ* are found in the vicinity of Des Moines, Iowa.

Bobolink (*Dolichonyx oryzivorus*). Migrant, not common, I have never seen or heard of it breeding in this county, although it undoubtedly does, as I have found it breeding in the next county west.

Cow bird (*Molothrus ater*). Abundant summer resident. The birds whose nests are used the most for a receptacle by the cow bird for its eggs, are the Wood Thrush, Summer Warbler and various Vireos. Over one-half of the nests found of the first have one or more eggs. and I have found as high as six with two of the Thrush's.

Yellow-headed Blackbird (*Xanthocephalus icterocephalus*). Abundant summer resident. Nesting in large colonies in large marshes, often in company with the Red-winged Blackbird, but usually by itself. In a day's collecting in a large marsh covering fully fifty acres, I did not see a single Red-wing, while the Yellow-heads were nesting by the hundreds.

The nest is a light, but large and substantial structure, placed in a clump of grass or reeds, and supported by the stems passing through its sides; about six inches in diameter, the same in hight, and from six to twenty-four above the water. It is composed of dried grasses and sedges interwoven and lined with finer pieces; often the rim is finished with the tassels of the reeds giving it a very beautiful appearance.

The eggs number four, rarely five, and in over three hundred sets examined I have only found four of five. Pale greenish-white covered with spots and blotches of purplish and light brown, often so much so as to completely conceal the ground color at the larger end.

Usually there are one or two small irregular streaks of dark brown on the larger end. The eggs, however, very greatly both in color and markings.

Red-winged Black bird, (*Agelatus phœniceus*). Very abundant summer resident. Can be found breeding in almost any marshy place where there are a few reeds or sedges; will often build in a willow tree if near the water.

Breeds usually in small colonies. Eggs four, rarely five. Collects in immense flocks in the fall.

Meadow Lark, (*Sturnella magna*). Abundant summer resident. Arrives about the middle of March, sometimes earlier. Breeding wherever there is a small strip of unoccupied ground.

Orchard Oriole, (*Icterus spurius*). Common summer resident. Arrives here in the spring shortly after the Baltimore. Found breeding in orchards.

Baltimore Oriole, (*Icterus galbula).* One of our commonest city birds, breeding abundantly in the maples that line the streets. Arrives the first of May.

Rusty Blackbird, (*Scolocophagus ferruguieus*). Abundant transient visitor. This is the earliest blackbird in the spring and the last in the fall. Passes through in flocks of one, two or three hundred although once or twice have seen them numbering several thousand. This bird is perhaps the noisiest one, with several flocks in the tree tops on a quiet March morning, it is certainly deafening.

Bronzed Grackle, (*Quiscalus purpureus æneus*). This is our commonest blackbird. Arrives about the middle of March, leaves about the first of November. They breed abundantly in almost any suitable place, usually two or more pairs together. A tree covered with wild grape vines is a vavorite place. In several large pine groves near the city there are large colonies. They begin building about the last of April, and full sets of eggs may be taken about the middle of May. The nest is a large and bulky structure, composed of straw, grass, stems or most any suitable material—if a straw stack happens to be near you will probably find them of straw—plastered together with mud and lined with fibres.

The usual complement of eggs is five, sometimes four or six. They vary much in color, usually a light green and from this to a brownish green, with large and irregular streaks and blotches of black and dark brown distributed over the surface, mostly at the larger end.

The Blue Grosbeak.

(GUIRACA CÆRULEA).

BY C. S. BRIMLEY, RALEIGH, N. C.

This beautiful bird is not at all common in this locality, but its habits and color render it much better known than many far commoner birds, so well known in fact, as to gain for it the local name of Big Indigo, by which it is commonly called around Raleigh.

It arrives here in the latter end of April, (April 26th to May 4th), and leaves a little before the middle of September (September 11th to 17th).

While here it usually frequents grain and grass fields, especially in the neighborhood of isolated thickets, and is also found in orchards; but it never seems to frequent lowland thickets or meadows, and I have never observed it in the woods, though it may sometimes be found on the edges of the latter if the locality is suitable.

In the beginning of June the Blue Grosbeak builds his nest in some convenient bush or small tree, usually at the height of from four to five feet. In the construction thereof he uses chiefly dead grass and weeds, but usually adds some cotton lint and pieces of newspaper to give tone and dignity to his dwelling, also perhaps to help distinguish it from that of his more plebeian little cousin, the Indigo, who sometimes builds quite as large a nest, but does not seem addicted to the use of cotton and newspaper as building material. When the nest is finished, it gets still further ornamented after a few days by four pale blue delicate looking eggs, which very much resemble those of the Indigo except in size. (The measurement of the only one in my possession just now is .88 by .66). The color, however, fades on keeping, and they lose the delicate, almost transparent look of the new-blown egg, becoming white and opaque.

The Blue Grosbeak is a very fair singer; his song somewhat resembling that of the Indigo, but, to my ear, more liquid as well as greater in volume. He does not as a rule, however, put in much time on singing, usually contenting himself with a clear, metalic "chip," which both sexes and the young utter when disturbed, but also as a call note when two or more are together.

With regard to singing, however, it is greatly a matter of individual birds. Last year I only heard the song once; this year, one has sung daily within hearing of our house for the last two or three weeks, and I shot another while singing about a week ago.

The plumage of this bird is bright blue, in the male, with the wings, tail and the feathers round the bill black, and wing with chestnut wing bars. Males in full plumage, however, are rather scarce; the blue of the under parts often being more or less mixed or replaced by white, and there is often a good deal of brown on the back; the head, however, is always bright blue. The female is olive brown, more yellowish below, wing bars somewhat paler than in the male, the second one sometimes whitish. The tail in both sexes has the two outer tail feathers slightly tipped with white or whitish. Young of the year are like the female both in size and color.

Measurements are as follows: male, L. 6.70, W. 3.38, T. 2.70, E. 10.75; female, a young of the year, L. 6.50, W. 3.19, T. 2.51, E. 10.54.

The Catbird of the West.

I invite a close inspection of this bird as he seems to be a much different fellow from the noisy bird of the East. I have never found it at this elevation (8513 feet) but in the Missouri River region I had ample opportunity to study the bird.

At Fort Laramie, Wyoming, it is perhaps the most abundant, but if you do not look for him he will not be seen; frequenting the dense undergrowth along the streams and building its nest in the darkest and most secluded places, it silently leaves its nest and is seen no more until the intruder is well out of the way. No noisy, cat-like cry is heard at any time, it is only at sunrise and sunset that he is heard singing a song that is surpassed by none of the thrushes except the mockingbird. In fact, he is a fine mimic himself and unless you can see and catch your bird you will think the thicket is full of song birds. The different notes follow so closely that you cannot distinguish where one begins or the other leaves off, and it is diffcult to make up your mind but that several birds are singing at once.

When the nest is robbed the bird makes the best of his lot; not a grumble is heard, but stifling his silent grief he seeks a still more secluded spot and again builds, and this time his nest is safe, for it will be placed in the midst of bushes where perhaps the nest may be in full sight. No man will care to try and reach it, unless he wishes to lose his clothes and several pounds of skin and flesh. Bulberry bushes have long sharp thorns, and in the midst of these is generally the second nest.

The birds seem to be on intimate terms with the Shrike, as I have seen them breeding in the same bush, but each seemed to hold undisputed possession of his particular side of the bush. Perhaps the Shrike is fond of music and lets the Catbird build near him that his mate may enjoy the evening concert. At any rate, the last named is not much of a warbler during the breeding season, although he can sing beautifully and does in the cold winter evenings. and strange to say when he is all alone, with snow, ice and leafless trees to set off his song. Perhaps this is what makes it so beautiful.

Nesting of the White-tailed Kite.

BY SAMUEL C. EVANS, SAN JOSE, CAL.

The White-tailed Kite (*Elanus glancus*) is a bird which I have never found singly, but always in pairs, at all times of the year. I noticed this especially on the Russian River from June to August, 1885, when I saw several pairs, each pair separated from the others by several miles. Never did I see one bird by itself, but always two together and never more.

In the Santa Clara Valley they are more abundant than in the Russian River Valley, and in the former place they breed near each other. Several nests were found within a radius of half a mile.

All of the nests of this bird that I have ever seen were near a body of water, and were generally placed in oak or sycamore trees. The nests are invariably very shallow and slight, being built of dry sticks, and sometimes lined with grass. The average height of eight nests was about forty feet, and it is to be noticed that they are almost always placed in the slenderest branches.

When their nest is approached the birds sometimes fly away quickly, but again others will hover over the nest and utter sharp, piercing cries from time to time.

They are very unsuspecting birds, and will not desert their nests, no matter how much they are disturbed. During the season of 1886 I tried the following experiment with great success. I found several nests which I visited frequently in order to watch the birds, and substituted small eggs of the domestic hen, painted the color of those of the Kite. I continued doing this until the birds ceased laying, and thus obtained full sets. They did not seem to know the difference, and in many cases, I might say in all instances where they had not been shot at or unnecessarily troubled, a second set was laid after the first had been taken.

The average number of eggs in a set is three or four, but I found a set containing five fresh eggs on May 22nd, 1886; the nest situated in a maple.

This bird is found in several localities in California, and there are probably as many of them in the Santa Clara Valley as any where else.

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Breeding Dates of Birds Near Frogmore, S. C., in 1886.

BY WALTER HOXIE, FROGMORE, S. C.

Feb. 26th. Great Horned Owl (*Bubo virginianus*), young in the down.

March 3rd. Bald Eagle (*Haliæetus leucocephalus*), young.

April 27th. Black Vulture (*Catharista atratra*), eggs.

May 11th. Ground Dove (*Chamæpelia passerina*).

May 15th. Royal Tern (*Sterna regia*).

May 19th. Boat-tailed Grackle (*Quiscalus major*). Last record June 9th.

May 19th. Florida Towhee (*Pipilo erythropthalmus alleni*). Last record August 6th.

May 19th. Cardinal Grosbeak (*Cardinalis virginianus*). Last record July 14th.

May 20th. Night Hawk (*Chordeiles popetue*). Last record June 3rd.

May 20. Orchard Oriole (*Icterus spurius*).

May 20th. Brown Thrasher (*Harporhynchus rufus*).

May 20th. Red-winged Blackbird (*Agelaius phœniceus*).

May 26th. Oyster Catcher (*Hæmatopus palliatus*), young chipping the shell.

May 26th. Wilson's Plover (*Ochthodromus wilsonius*).

May 26th. Least Tern (*Sterra antillarum*).

May 30th. Painted Bunting (*Passerina ciris*).

June 9th. Clapper Rail (*Rallus longirostris crepitaus*).

June 11th. Green Heron (*Butorides virescens*).

June 18th. Florida Gallinule (*Gallinula galeata*).

June 18th. Black-billed Cuckoo (*Coccyzus erythropthalmus*).

June 22nd. Bob-white (*Ortyx virginiana*).

ENTOMOLOGY.

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Owing to contemplated changes in this magazine and my continued ill health, it has been decided to discontinue the Entomological Department.

We regret the fact that this has become necessary and hope that our readers have found many useful hints in our columns. Our space has been too limited to allow us to do our subject justice, but we have endeavored to make it as attractive as possible, by supplying a want always felt by beginners, viz.: instructions in plain language for collecting and caring for specimens, their habits, localities, time of appearance, food, etc.

We thank the many friends who have assisted us by articles, notes and good wishes. We will always keep a warm nook in our hearts for their memories and hope that time will strengthen and cement the friendships thus formed.

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Look for "Errata" in July issue of O. AND O. as you will there find corrections of articles for the previous six months.

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Butterfly and Moth Hunting.

BY PAUL REVERE.

June is the month for the entomologist. Day and night some of the finest insects are on the wing, depositing their eggs and providing for the reproduction of their species. The fields and the lamp posts are ripe for the harvest and will yield as fine specimens of 'fles or beetles as any month in the year.

The season of 1887 opened well entomologically, in Southen New England. The Vanessa Antiopa were on the wing in unusually large numbers in the latter part of March, and their larvæ are by this time on the willow and the elm for the first brood. Colonies of these caterpillars may be easily taken in their last stage during this month, for the purpose of obtaining that rare and highly prized variety, *V. Lintneru*, with the broad yellow border of the fore wings covering from one-third to one-half of the wing; or the variety of Hërbst, with white border and enormously large blue spots.

Early in April the hibernating Graptas were on the wing, and on the 29th of April that blue spring beauty, Lucia, appeared in large and brilliant companies. Since then how the butterflies and moths have come trooping in until now the smallest and the greatest, the most somber and the most brilliant meet at almost every floral banquet.

The capture of the day flyers is comparatively easy, but the catching of night fliers of the larger varieties is not so small a matter. As every dog has its day so every moth seems to have its preferred time to fly, and how rarely the big moths are taken at lamp posts; and how many nights they are sought in vain. In dark close woods they may often be taken on the wing late in the afternoon; and on the darkest and mustiest nights of summer they are abroad. The order of their flight is as well defined as the movement of the stars in their courses.

The Promethea moth is almost always on the wing two hours after the sun has crossed the meridian, while the Polyphemus and Saturnia Io. are not flying until an hour after sunset. So among the hawk moths, D. Lineata will sport in the afternoon sometimes, while the rest of the family love to sport in the shade of the evening — mostly at the twilight hour. The Cecropia in assembling seldom comes before nine o'clock p. m., while fair Luna will often postpone her calls till midnight or early morning. Yet a stray moth or two of all these varieties may be found on the lamp posts or at the electric lights occasionally early in the evening. Those varieties, D. Imperialis and C. Legulis, are seldom found at street lights. In ten years I have found one specimen of Regalis Odora in Connecticut in this way.

The cyanide bottle — a small quantity of cyanide of potassium held in the bottom of a wide mouthed vial and tightly stoppled, is indispensable. It is a cheap contrivance and kills flies or beetles at once.

Ten or twelve feet of malleable wire with a flat small coil at the end, should be carried coiled in the pocket to knock down those rare and wily moths that cling to the branches of trees and sit high up on buildings in the electric light. A well directed blow upon the thorax with this will bring down the most delicately plumaged moth in good shape.

Hunt the fields, work the lights, watch the flower beds, be diligent and untiring in collecting, and in the fall the additions made to your cabinet will surprise you.

At the close of the season let others know through the journal you take, concerning the result of your observations and the rare catches you have made.

On the Cicindelæ of Boston.

BY L. E. HOOD.

The city of Boston, including as it does Roxbury, Allston and Brighton, with their parks, open places and groves, present an inviting field for the local collector who wishes to limit his collection to a certain locality.

For some two or three years I have been gathering material for a list of the *Coleoptera* of Boston, but as yet my collection is far from complete and I will now only note the Cicindelæ found within the city limits.

The most common species is *Cicindela purpurea* Oliv., found in Franklin Park, Allston, on new roads near Brighton Avenue, Cottage Farm and on sandy roads in Roxbury.

Of *C. vulgaris* Say. I have only found a few specimens on a new road in Allston, with *C. purpurea* Oliv. and in Franklin Park, Roxbury.

C. 6-guttata Fab. very rare on rocks near the play-ground not far from the pond in Franklin Park.

A variety of *C. 6-guttata* Fab. the *C. patruela* of Dej. which in May is found in Newton in sandy fields, penetrates to the Brighton boundry line and may be a species included in this list, but it will be exceedingly rare.

C. Hentzii Dej. is said to have been found on the hills around Roxbury, but it is doubtful if within Boston limits.

The small *C. punctulata* Fab. is found in Franklin Park in August. Allston, one specimen August 20th, 1885, and on a road off Blue Hill Avenue, Roxbury.

It is a question in my mind if *C. dorsalis* Say. may not be found on the sea shore of East Boston, toward Winthrop Junction, or to the south, and I shall make a thorough search for specimens this season.

Sphingidæ of New England.

SPHINX CHERSIS HUB.

Head and palpi bright gray, a brown stripe running from the apex of the latter to the eyes. The thorax is of the same color and is marked on top with two black lines which run from the anterior portion, where they nearly meet, to the metathoracic tufts, which are of the same color. The underside is paler and marked with two black spots, edged with white, just at the base of the wing.

Abdomen ashy-gray with a narrow black dorsal line, and on each side a broad black band, interrupted at each segment by a white spot. The underside is paler than the upper, and has a row of small black ventral spots.

The anteriors are grayish, more or less shaded with darker. The spaces between the veins are occupied by short black lines, the last one almost uniting with the apical line, which is also black. There is a tinge of brown at the base of the wing, and a light stripe along the margin near anal angle.

The posteriors are a little darker than the others and crossed by central and marginal dark brown bands.

Fringes pale gray.

Underside lighter gray, with an angular central band crossing the posteriors and continued on the anteriors. There is also an almost obsolete marginal band on the posteriors.

Expands four to five inches.

The mature larva is about three and a half inches long, greenish-white, darker on the lower side. There is a yellowish stripe on each side of the head, and seven oblique pale yellow stripes on each side, edged above with dark green. Spiracles black, edged with white. Caudal horn rose-colored.

Food plants lilac and ash.

◆

Something About Beetles.

BY J. A. WRIGHT.

Much has been written about ants, their homes, slaves, dairies, methods of communication, etc , but there are many similar traits among beetles that have been somewhat overlooked.

Every collector of Coleoptera has found communities of *Adalia bipunctata*, hibernating in all conceivable localities, where they could find shelter; but I never, until this spring, found more than two *Megilla maculata* hibernating together.

May 1st, while collecting in Watertown, Mass., under a long pile of stones thrown up along the edge of a grove, I had the good fortune to turn over a small stone with a few dead leaves under it which seemed to be alive with *M. maculata.* They were quite active, crawling off in every direction, hiding in the dirt etc., but did not attempt to fly. I immediately cleared a circle around them and commenced collecting from the outside, so as to secure the stragglers. On my return home I counted my capture and found that I had taken four hundred and ninety-three specimens.

Now the question suggests itself, what means of communication had they to enable them to collect in such numbers under that one stone, when there were thousands of similar ones near by? We can readily account for the presence of large numbers of any species near its food, but in this case there was nothing of the kind to guide them. *A. bipunctata* is found singly or in greater or less numbers according to the size and prominence of the place selected for a winter home, and in a neighborhood where I have found a community, I have invariably found more in similar locations, usually under bark of trees, in stumps or around houses—rarely under stones—, so it would seem as though they might have met by accident. Such an opinion is not tenable in this instance for I turned over a large portion of the stones for miles around without finding a single specimen. Even had they been out on any of the few previous hot days, the mystery would still remain, and be even more remarkable, as the time would be so much shorter for them to gather in that one small spot, than in the fall, when they were hiding one by one.

It is generally conceded that ants communicate by the sense of touch, but it does not seem possible that Coleoptera that fly instead of walk, could ever communicate in that way.

There is but little doubt that insects have languages of their own, as witnessed, not only by those referred to above, but by the "tumble beetle" in calling for assistance to get its little pellet out of a cavity and many other similar instances.

◆

In the August 1886 number of the O. AND O. I contributed a list of the Cicindelidæ of New England. I wish to add to that article the following species:

Cicindela generosa Dej., at Concord, N. H., Massachusetts and northern Connecticut, on sandy places. *Patruela* Dej., at Newton, Mass. in May. Said to be common in southern Massachusetts, on sandy places thinly covered with grass. *Rugifrons* Dej., Massachusetts, on sand. *C. generosa* is a variety of *C. formosa* Say. *C. patruela* of *C. 6-guttata* and *C. rugifrons* of *C. scutellaris* Say.

L. E. HOOD.

JULY, 1887.

VOL. XII. NO. 7.

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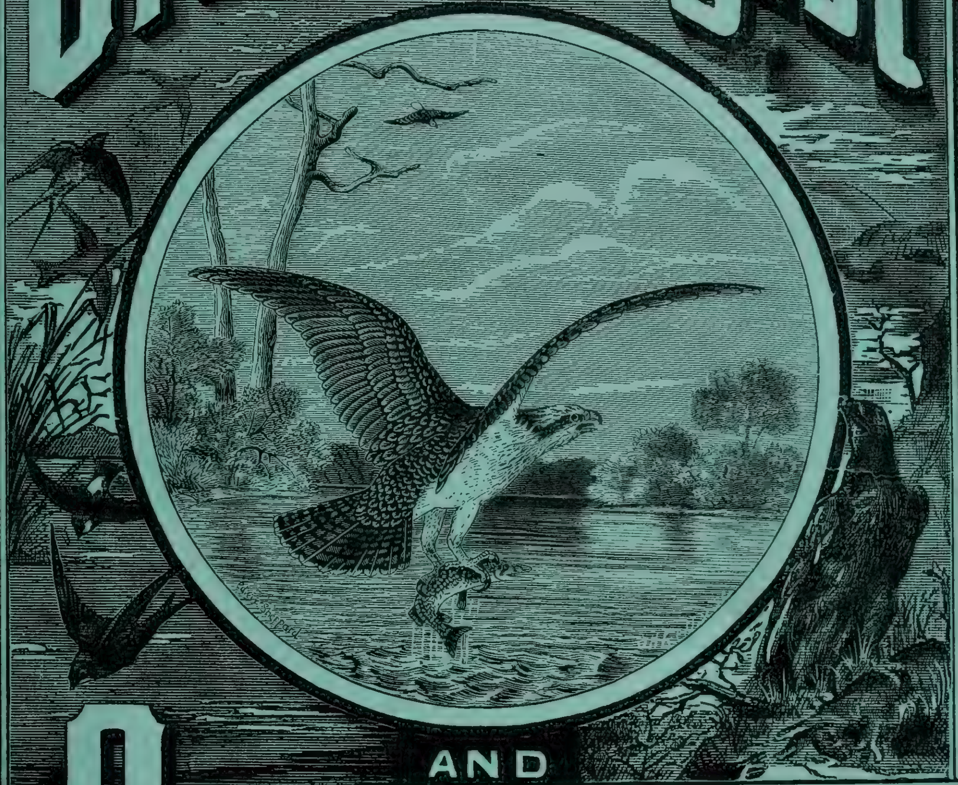

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VOL. XII. BOSTON, MASS., JULY, 1887. No. 7.

A Week's Trip After Hawk's Eggs in Colorado.

BY FRED M. DILLE, GREELY, COLORADO.

On May 20th, 1886, at four o'clock in the afternoon we started. Rather an unseasonable hour to start on a camping trip, but we had fussed for several days in getting our "outfit" together, and when we found everything all packed in the wagon with several hours yet before dark, we started, not caring much where night would catch us.

A little description as to the "outfit" and I will proceed with my narrative of what I considered a rather unlucky trip.

The team consisted of two wiry little bronchos, one of which could be depended upon but the other one needed constant watching. The usual provision box, beds, tent, etc. were in the wagon, and for our cooking we had the "fire irons" and "bake ovens" so commonly used in this country.

For the accommodation of the hawk's eggs I expected to gather I had fifty of the "100" size cigar boxes all full of cotton and fitted in a large dry goods box.

Our route lay east from Greeley, out of the Colony gate, and over the plains for fourteen miles, where we came to Crow Creek opposite "Hoover's sheep camp." This was the only place where we could get water for miles, and after watering the horses at the tanks by the corrall, we drove up the creek till we came to good feeding ground and stopped for the night. Crow Creek although lined with an abundance of native cotton-wood and willow, is perfectly dry most of the year for about twenty miles from where it empties into the Platte. To picket out the horses, put up the tents and prepare our supper before dark we had to bustle.

On May 21st a Screech Owl gave us a concert in the night, and the first thing I heard in the morning was the glorious song of the Mockingbird. These birds used to breed abundantly in Greeley some years ago, but left us and took up their haunts in the most isolated places, on account of their young being so much sought after.

Did any of "you collectors" ever taste an Owl's egg? I have, and it happened about this way: After breakfast I went out to look up my Screech Owl, and soon found a promising looking hole in a large cottonwood, but quite near the ground. A few raps on the tree brought out *Scops*, and up I went. In order to get fairly at the nest I got astride a slender limb and brought out two eggs. I had just wiped one off and stuck it in my mouth and was wondering where to put the other, when the limb with a loud crack came to the ground, and I brought up face first. The damage done was most of my teeth loose, an ugly hole through my lip, besides a broken egg.

After dinner we packed up and started on up the creek keeping well in among the trees. Empty Hawk's nests were abundant, and so I only got one egg that day. The nest was very high up and parent bird not at home. The egg was quite large being heavily and richly colored with rufous brown, etc. One end seemed about as large as the other. On the whole it very much resembles the egg of the Ferruginous Rough-leg (*Archibuteo ferrugineus*), both insize, shape and color.

Ten miles from our camp we came to the "Big timber," a large and handsome grove of old cottonwoods. D. A. Campfield, a Rhode Island man, has a large sheep ranche here and runs some nine thousand head. A few yards below his house the creek, which runs quite a stream from here up, suddenly disappears in the sand and is not seen again.

A large number of Blue Herons were fixing up their old nests in the tops of the trees, and Mockingbirds, Shrikes, Blackbirds, Doves Flycatchers and Kingbirds were abundant. Also a species of Grackle that I was not acquainted with. I shot one specimen for identification

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but that night it was carelessly left on the ground and I never saw it again.

Stopped for the night at a point known as the "big Crossing" where the old cattle trails from "Pawnee Buttes" cross the creek.

I secured a good set of Swainson's Hawk (*Buteo swainsoni*), three eggs, and we killed two large rattle snakes quite near the tent.

On Saturday, May 22nd, about midnight we were awakened by a terrible roar and even before we had time to speak to each other, one of our short notice Colorado zephyrs had struck us and away went our tent in a direction towards the horses, followed up by a big train of rattling tin ware. It was as dark as Egypt and we spent the rest of the night under the wagon, our sleep being broken at intervals by the howling of the Cayotes, and the patter of rain which continued until morning. When daylight came we could see nothing of our horses. One rope was broken near the noose and the other was missing entirely. I suppose when all that white canvas came flapping up in the wind that they could not resist the temptation to stampede.

We fished the tent out of the muddy creek some four hundred yards below camp, gathered together what else we could find of our effects and sat down to a rather dismal breakfast, after which I started out for the horse ranche eight miles above, where I knew I could find plenty of horses with which to hunt up my own. On the way I flushed a Western Redtail (*Buteo borealis calurus*), from her nest in a high willow.

I reached the ranche a little before noon, took dinner, after which one of the men caught me a horse and I was off down the creek again. I took a strong pair of field glasses, my "lasso" and a rubber blanket and set out over the prairie at the rate of twelve miles an hour. To make the narrative of that long hot afternoon short, I found the runaways at the Colony gate, roped them, shifted my saddle on one, and was back at camp by nine o'clock that night. A ride of some fifty miles in five hours.

On Sunday, May 23rd, the outfit was packed up and I proceeded up the creek. We went into camp in a large grove of old cottonwoods just above the ranche and spent our Sabbath there. Birds of all kinds were numerous around the ranche and among them were great numbers of the Western Yellow-bellied Flycatcher (*Empidonax difficilis*). They all seemed to have just arrived and I saw many species new to the country, but it was too early for their eggs.

In this connection I might here add that although I was at least six days behind the time that I usually find fresh eggs of the hawk, all that I took on this trip were perfectly fresh and the sets were mostly complete.

On Monday, May 24th, we got off in good season and went up the creek some eight miles and then struck out on the prairie for four or five miles until we came to Willow Creek. I saw many a solitary Mountain Plover (*Podasocys montanus*), stalk off, but for the life of me I could not find their nests. These are very hard to discover, being flat on the ground with no relief and the actions of the birds are very deceitful. This, however, was the time to obtain fresh eggs.

On Willow Creek the trees are few and far between, yet with but few exceptions every tree contained a hawk's nest. It is nothing but a "dry run," with here and there a spring coming out of the banks, yet a better locality for hawk's nests cannot be found in all Colorado. Our course was directly up the creek towards the chalk bluffs that now began to appear in the northern horizon. We had no road to follow and went bumping over the cactus beds. Sometimes we had to go back on our tracks for several hundred yards to get out of a small canon that we had unconsciously rode into.

Our first finds were two sets of Western Redtail, of three eggs each. One nest I reached out of the wagon, and the other only by a tough scramble through the lower branches of the willow in which it was placed. Both nests were shallow, rough structures, and were lined with green bunches of cotton balls.

Our native cottonwood trees are covered with large bunches of cotton balls that very much resemble grapes. These do not break until about the last of June, but the hawks, as I have found by careful observation, pick off these bunches and about fill up their nest with them. The heat of the hawk while sitting not only hatches out the eggs but hatches the cotton, so to speak, and our young *Buteo* is ushered into this world on a soft bed of down.

As I remember it this day I took some twelve or thirteen eggs of the Western Red-tail and five eggs of Swainson's Hawk, but a little accident that then happened left me with but few sound eggs. The team ran away over the rough prairie, scattering our whole outfit out and nearly all the eggs were broken. Things were all rather scattered and when we drew around the supper table that evening we only had one plate between us.

The best stopping place at noon we could find was by a small greenish looking pool of water with three dead steers lying around the edge of it. From a large nest in a tree near by I flushed a Ferruginous Rough-leg, (*Archibuteo Ferrugineus*). There was no mistaking this beautiful bird the moment she was in the air, and I did not shoot her.

In the nest were three well-grown birds; not so large, however, but what they were still snowy white in color, and this find helps to strengthen my previous statement that the Ferruginous Rough-leg nests about one month earlier than the other hawks. Their eggs are invariably two or three in number. Nest very large. There are but few species of hawk's eggs that can approach those of this species in richness of color and size, and I have yet to find the "set" that will make as good an appearance in a cabinet as these do.

I had the good fortune that afternoon of coming across two nests of the American Raven, (*Corvus corax carnivorus*). They were in willow trees about a quarter of a mile apart, and the four ravens were very much worked up over our arrival. Taking flight they circled round and round us, over head, like a hawk, until they almost disappeared from sight and we could hardly see them above. We would occasionally hear that hoarse cry that is so characteristic of this bird, come from the clouds as it seemed.

The nests were about the neatest and best made nest of a large bird that I have ever seen, well shaped and very deep. The inside was all nicely lined with tufts of cow hair. In one nest the hair was all red, while for the make up of the other white steers must have suffered, for I have no doubt but what these ravens got their hair from the backs of living animals. I have seen them in the severe winter weather alight on the back of a steer and pick out huge mouthfuls of flesh, so hungry and voracious do they become.

The eggs were eight in number; in both sets one being perfectly fresh but the others I could not save, not having proper tools with me. In color they were bright green with great elongated blotches of black running lengthwise with the egg. All sixteen were very much alike, hardly distinguishable.

Measurement averaged about 1.98 x 1.30, some being over 2.00 and a few under.

These birds differ very much from the common crow in every way, size, action and croak. I remember the first one I ever saw. I knew it was a raven in a moment. This large set of eight eggs is now in my collection.

Trees began to thin out and in the very last tree on the creek I obtained a set of three eggs of the Krider's Hawk, (*Buteo borealis krideri*). So closely allied are they with the Western Red-tail that a sure identity can only be established by shooting the hawk. The birds are a pure white underneath from neck to end of tail and a person can tell between these two species of hawks which is which, with some degree of accuracy without shooting them, yet it is safer to do so.

After leaving the creek we took a direct course across the prairie for the chalk bluffs and camped for the night on a broad, level plain four miles from their base, and in one of the best natural ranges in the West, so considered.

Large herds of cattle and horses could be seen on all sides with here and there a small band of antelope. We did not pitch the tent that night but slept under the stars. It was a most perfect night and our slumber was sound.

On Tuesday, May 25th, the bluffs stood up ahead of us like a huge wall, and the wide plains stretched away to the south as far as the eye could see. As we drew near, canons and gorges opened up, like the foot hills of the "Rockies." We followed up the Simpson Creek into the hills for some ten miles before stopping. There were lots of trees all along the road but no hawk's nests. We could see the hawks sailing around in great circles far up among the rocks where they probably nest. Small birds were exceedingly numerous, many of them being species that belonged to Wyoming. Against the side of the cliff at one place thousands of Swallows had fastened their mud houses and these all together looked like one immense piece of honey comb.

Next day we took ropes, boxes etc., and struck out up among the rocks. We had pointed out to us a nest of an eagle, but at first glance we saw that we could not get to it. We took two sets of Western Red-tail from nests not four feet apart on a narrow ledge. In places on this great mountain, down which we were walking, the action of wind and rain had so worn on the cliffs that it left standing here and there quite alone, huge columns of sand stone that appeared like chimneys. The tops of these were favorite nesting places for the hawks, and I found on one of them the nest of a Prairie Falcon, (*Hierofalco mexicanus polyagrus*). We shot the female as she flew off the nest.

An immense pile of rubbish of every description formed the nest. The only egg lay in a hollow formed by skeletons, dead animals, etc.

It was decidedly buff in color with only a few small brownish spots on its surface.

On Thursday, May 26th, we had a pretty long drive before us and we started off before four o'clock a. m. We took Abney's road back in the hills to Cheyenne. The country was quite hilly, and in fact we were riding along on top of an immense table land some 2000 feet above the level of the plains. A species of wild sweet pea grew very abundantly; they were very fragrant. We came in sight of Cheyenne, "the Windy City," and then we turned south.

We had some trouble in getting out of the hills, tipped over once, and when we were out steered direct for a large knoll some thirty miles to the south. It was three o'clock p. m. before we got there at the sluggish pool near the base, and a dusty or more tired outfit could not be imagined. We rested till six o'clock p. m., and then struck out again for Packard's sheep ranche or Cone Tree, only twenty miles from Greely. I worked the creek next day and secured three more sets of Western Red-tail, and three hours driving put us back into Greely.

The Shore-bird Migration at Monomoy Island, Cape Cod, Mass., Summer and Fall of 1886.

BY JOHN C. CAHOON.

July 1st; the birds about the island at this date were Herring Gulls, Roseate, Common and Least Tern, Red-wing Blackbirds, Song and Savannah Sparrows, Sharp-tail Finches, Meadow Larks and Piping Plover. On July 15th, the Least Sandpipers and Sanderling became common. The day following was cloudy with light rains. Semipalmated Sandpipers were common together with the Red-breasted Snipe. The first Black-bellied Plover was seen to-day. The 17th was very foggy all day with south and south-west wind. Saw about twenty-five Sanderlings, all adult, and four that were moulting about the neck. First young of the year, Piping Plover and Spotted Sandpiper seen to-day, full grown. Richardson's Jaegars became common. One Wilson's Petrel was seen on the 18th, and several Semipalmated Plover and two Yellow-legs on the 19th. July 20th, wind south-west, weather fair. New arrivals do-day were one Hudsonian Curlew and two Greater Yellow-legs. Sanderlings were abundant and Semipalmated Plover common.

No new arrivals were noted between July 20th and 23rd. On the 27th a Turnstone was seen and an increase of Sanderlings noted. July 29th, first arrival of young Sanderlings to-day and a small bunch of Greater Yellow-legs seen on the flats. A heavy tempest on the morning of the 20th brought along a small flight of shore birds; three flocks of Robin Snipe seen, Turnstone common. Saw a Stilt Sandpiper in company with some Semipalmated Sandpipers on the flats. Two adult Black Tern noticed; the first this season. A large bunch of Black-bellied Plover and a few Yellow-legs arrived Aug. 4th. Saw two Laughing Gulls, both adults. The Sanderlings seem to be diminishing in numbers. An increase of the Black-bellied Plover was noticed on the 5th, several large flocks being seen. No adult Sanderling are now seen, all being immature birds. The first Pectorals were seen on the 9th, and several Stilt Sandpipers were shot by sportsmen on that date. Four Willet arrived on the 11th. Two Arctic Tern were seen on the 13th, being the first noticed for some time. Four Sheldrake were seen on the 19th.

Aug. 20th and 21st, wind north-east; shore birds scarce, only a few Semipalmated Sandpipers seen. 22nd, Wilson's Petrel were common out in the bay. Aug. 25th, wind south-east and north-east, blew very fresh. A flock of about thirty Golden Plover arrived to-day, but only one was secured. Aug. 26th, four flocks of Golden Plover observed to-day. Sanderlings increasing in numbers. Jaegers abundant. The wind and rain on the 30th brought along a flight of birds on the following day. A large flock of Golden Plover, several flocks of Yellow-legs and a few Greater Yellow-legs were found on the meadows. Pectorals abundant. One Bonaparte and one Buff-breasted Sandpiper collected. Sanderlings were abundant on the flats at low tide. Young Turnstone common. Several large flocks of Black-bellied Plover seen. Shot a Carolina Rail on the meadows.

Sep. 9th, wind south-west; foggy. A flock of twenty Golden Plover came to-day. Young Black Tern seen. Sep. 21st, wind west; clear and cool. Two Hudsonian Curlew collected on the meadows; a few Golden Plover seen; Sanderlings scarce. Sep. 22nd, wind north-east. New arrivals to-day were young Red-backed Sandpipers. Young Black-bellied Plover abundant on the high beach at high tide. Mr. F. H. Carpenter, who spent a short time with us, shot a large number to-day. A small flock of Surf Ducks seen. Sep. 23rd, wind south-east; blew very fresh with heavy rain-fall, which brought along a number of birds. Young Black-bellied Plover abundant; young Robin Snipe and Sanderlings very common. A few Greater Yellow-legs seen. Sep. 24th, wind north-east to south-east. A Bonaparte Sandpiper shot. A flock of Golden Plover seen leaving the meadows and several Hudsonian Curlew noted. Richardson's Jaegers abundant.

Sep. 30th, wind north-east with light rain. Increase in number of shore-birds. Red-backed Sandpipers, Black-bellied Plover and Robin Snipe abundant. Greater Yellow-legs common. Several Bonaparte Sandpipers seen. Two Great Blue Herons seen on the meadows. Oct. 1st, wind north-west. Greater Yellow-legs increasing in numbers. Several Black-backed Gulls arrived to-day. The first comers of the Tit Larks appeared. Oct. 2nd, wind north-west. New arrivals this date are Bonaparte and Kittewake Gulls. The shore-birds seem to be decreasing. Mr. Carpenter shot an adult female Duck Hawk in the act of eating a Black-bellied Plover that it had caught. Two Hudsonian Godwit seen on the meadows. Oct. 3rd, wind south-east. Several Night Herons seen. Oct. 4th. Black-bellied Plover decreasing. Sanderling common. Several Semipalmated Sandpipers seen. Pectoral Sandpipers common. Two Hudsonian Godwit seen on the meadow and one shot by Mr. Carpenter. Several Bonaparte Sandpipers seen on the meadows. A few Roseate Tern heard. Oct. 6th. All species of shore-birds except Sanderlings are decreasing. On the 8th Bonaparte Gulls became common and Richardson's Jaegars very abundant. A great decrease in Terns was noticed on the 9th. Tit Larks became abundant on the 10th.

Oct. 11th, wind south-east. Only a few Tern seen to-day. Red-backed Sandpipers, Semipalmated Plover, and Sanderlings are still abundant on the high beach at full tide. A number of Black-bellied Plover yet remain. Oct. 22nd, wind north-east; blew fresh and cool. Black-bellied Plover, Sanderling, Red-backed Sandpiper and Greater Yellow-legs are common. Found only four Pectoral Sandpipers on the meadows. A few common Tern yet remain. Kittewake Gulls noted. Oct. 23rd, wind north-east; blew fresh, cloudy and cold. Several small bunches of Black-bellied Plover seen. A few Sanderlings and Red-backed Sandpipers remain on the flats. Old Squaw Ducks are common. Oct. 24th, wind south to south-west. I left the island to-day, leaving behind me Herring, Kittewake and Bonaparte Gulls; Common Tern; Red-breasted Sheldrake, Long-tail, Surf, and Black Duck; Black-bellied Plover, Sanderlings and Red-backed Sandpipers, Greater Yellow-legs, Tit Larks, Meadow Larks and Black Snow birds.

Aptosochromatism.

A Tabulated Field Study.

BY WALTER HOXIE, FROGMORE, S. C.

The following table was made at Bull's Point, Apr. 23rd, 1886. The specimens examined were Dunlin. It was my intention at the time to make a similar study of those other species of Shore-birds — the Knot, Sanderling and Black-breasted Plover, but I failed to obtain a sufficient number of specimens any one time. I now offer this table for publication together with an explanation of the method used in making it up. And I hope I may receive from some of my co-workers a little more aid this season than I did last, upon this line of investigation.

I first took twelve specimens of Dunlin and numbered them in sequence according to the blackness on the breast. No. 1 was very dark and No. 12 in almost typical winter dress. This column I headed *Black*. The second column marked "p. f." is intended to show the relative amount of "pin feathers" on the specimens — No. 1 having the most and No. 12 the least. Between the last four it was quite difficult to decide with positive exactness. Upon finding that No. 4 was at the head of the list, and that the tips of the pin feathers showed *no white*, I made a final note on the back of the tag "R. o. t.," which was to signify that on dissection I expected to find the reproductive organs *large*. That is probably larger than in some of the specimens above it on the list. Next I skinned and dissected my specimens, placing the number in the first class upon each. I now placed the males and females in separate classes, giving them new numbers but still in accordance with the sequence of "*Black*" Nos. Lastly I placed the reproductive organs in their order of size. The order in which they now stand is indicated in the columns marked "S. of O." It will now be seen that among the females there is no break in the sequence of numbers. Among the males a probable note was made previous to dissection, which accounts for any discrepancy and the close similarity of specimens 11 and 12 gave me no cause for disappointment when I found that my last column would not quite "hitch" at the bottom.

DUNLIN.

April 23rd, 1886.

Black.	P. F.	Female.	Male.	S. of O.	
1	2	1		1	
2	12		1		2
3	6		2		3
4	1		3		1
5	3		4		4
6	4	2		2	
7	11		5		5
8	5	3		3	
9	8?		6		6
10	7?	4		4	
11	9?		7		8
12	10?		8		7

Was it a Sparrow Hawk's Nest?

BY WALTER HOXIE, FROGMORE, S. C.

On March 14th, 1887, while rambling around Edding Island, I found a dead palmetto stump with a very "convenient" looking hollow in the top. It was a little too high to look in, so I tapped it lightly with the butt of my gun and was pleased to hear a slight scratching on the inside in response.

"Coon," I said to myself, without a moment's hesitation, and I tip-toed off and got a good solid cedar limb with which I effectually plugged the cavity. Then I essayed to push the stump over but it resisted all my efforts. The scratching inside continued, so at that I located the exact spot where I supposed my coon to be and let drive a charge of buck shot. Imagine my chagrin when instead of a good fat coon I found only the mangled body of a little female Sparrow Hawk.

Upon enlarging the opening made by the shot I extricated what remained of a nest. The material was small sticks and cedar bark but no eggs. The Rice Field Mouse often builds its nest in such localities but the material is always fine grass and weeds, which in this case were not present.

Nesting of the Ground Dove.

BY T. D. PERRY, SAVANNAH, GA.

This beautiful and timid little species (*Chamæpelia passerina*) is the smallest of its tribe. It is a constant resident with us here, being quite abundant from Cuba to South Carolina, and amongst the many islands that dot the coast.

Their breeding season covers a long period, commencing as it does early in April, and continuing through June, and sometimes July. I have found their nests as early as April 9th, with eggs slightly incubated; and as late as July 9th with fresh eggs.

The nest is a very slight affair, consisting of a few twigs and pine needles, and very often of grass and pine needles. The birds seem to have no regular place for its location. In one instance I found it on the ground, and in another case it was on a stump. Generally, however, it is located in vines, or in a pine sapling, or a myrtle bush. The height from the ground varies from two to six feet in most instances, though I once found a nest that was ten feet up, and another that was twenty feet from the ground. These latter cases are the exception, however.

They seem to prefer the pine lands, where the undergrowth of young saplings makes the wood dense, and here their nests are generally found. The eggs are always two in number, of a white or creamy color, and average about .86 x .62 in size.

Nesting of the Black Skimmer.

BY CHAS. S. SHICK.

This truly singular bird is the only species of its genus hitherto discovered. It is very singular in appearance, and the odd conformation of its bill has excited much surprise among the leading ornithologists of the world.

The Black Skimmer (*Rhynchops nigra*), derives its name from the habit it has of skimming, while on the wing, the surface of the ocean for its food, which consists of shrimps, small fish, etc.

It breeds in great numbers on the low sandbars and dry, flat sands on the coast of New Jersey. The Skimmers make their appearance early in May and remain till the latter part of September.

They commence to lay early in June, the nests being a mere hollow in the dry sand. The female generally lays three eggs, although I have found numerous sets of four. The eggs are oval in shape, of a clear white color, spotted and blotched with brownish black, intermixed with others of a pale lilac color.

On their arrival in the spring, they form themselves into small societies; ten or fifteen pairs frequently breeding within twenty-five yards of each other. Of the seventy-five or more sets observed by me, during 1885 and 1886, seven sets contained four eggs each, while the rest were composed of three eggs each. Some of these sets were very odd in markings.

Nesting Habits of Texas Birds.

BY HARRY P. ATWATER, LONDON, ONTARIO, CANADA.

The following observations on the nesting habits of Texas birds were made at Losoya Crossing, a point on the Medina River, fifteen miles south of the city of San Antonio, Bexas County, Texas, in 1884 and 1885.

The object of my visit to Texas being the collection of natural history specimens, I was daily in the field during the nesting season, and my being on the same spot during two seasons, one following the other, proved very advantageous in many respects.

The location was high and dry, and the absence of any dense forests or tall timber, also marshes or lagoons, will account for the absence of specimens that might otherwise be found breeding in that latitude. The ranch of Mr. Gustave Tondouze, where I stayed, was situated about a mile from the river, and south of it, the river itself running between high bluffs with here and there on either side an opening of a few acres of bottom land, with a few Pecan, Cypress and tall Cottonwood trees, generally covered with tangled vines, and the whole covered with thick underbrush. I expected to find these openings, as well as several very deep and rocky ravines leading down to the river, a fine nesting place for many species; but during both seasons the high water which flooded the river bottom for weeks at a time, and the heavy rains which washed and entirely altered the aspect of these canyons, not only caused the river to be impassable, and prevented exploration, but it really seemed as if instinct prompted, or I might say warned many birds to seek more favorable localities.

Between the river and San Antonio, the country is rolling, and entirely covered with Mesquite trees (average fifteen feet), cactus and Chaparral, with a few scattered Live oaks; and along the road nearest to the river a few ranches and cultivated fields. The same kind of country prevails about two miles south of the river, and then commences a dry sandy country covered with Black oaks, no underbrush, and extending south for many miles; very little settled on account of there being no water, and after the migration almost deserted by birds of all kinds.

Mocking Bird, (*Mimus polyglottus*). Very abundant; commence to breed or build about the middle of March; raise two broods. On account of the cold "northers" which are frequent at this period, these birds as well as all others which commence to build about this time, make nests much more bulky than those found later on in the season, when it is warmer. The first nests taken were also for this reason I suppose, placed in more sheltered spots. Eggs generally four and five, size and color very much varying.

Blue-gray Gnatcatcher, (*Polioptila cœrulea*). Common during migration, and one nest found in 1884; found no nests in 1885.

Black-crested Tit, (*Lophophanes atrocristatus*). Quite common and breed here, but I was not fortunate enough to find a nest during either season.

Yellow-headed Tit, (*Auriparus flaviceps*). Very common in 1884 and about twenty nests taken, one containing five eggs, one of which was much lighter in color than the others; all other nests four eggs. First nest in 1884 contained four eggs, fresh, taken March 31st. Nests nearly always built on outside limbs of Chaparral bush; position always exposed, and with hardly any exception, about same height from the ground. The nests with one exception were composed of thorns and weed stems woven with spider webs and lined with feathers. Birds were not at all shy in 1884 during the breeding time, and I have found nests with one or two eggs, and though on account of the shape of the nest it was impossible to touch the eggs without greatly disarranging it, they did not seem to mind, but finished laying the full number in all but one or two cases, where perhaps it was my fault in disturbing the bird in the nest after dark, causing a more than usual scare. After taking a nest, a new one would invariably be commenced within a short distance of the old one, and eggs laid.

The exception mentioned as to position, refers to a nest now in my collection, which was placed among some moss or lichen on the lower limb of a Live oak tree, and not close to Chaparral or thorns of any kind and no thorns are found in its construction, simply weed stems and the usual spider webs and feather lining; which proves that they do not go very far for material, for had thorns been essential plenty could have been procured fifty steps away. This nest contained no eggs and from some unknown cause had evidently been deserted.

In 1885 the birds were very shy and much more scarce; only four or five nests taken and the birds deserting always upon touching the nest; and in one instance three nests within a short distance of each other, built by the same birds, were one after another deserted before eggs were laid, the birds themselves finally disappearing.

While on exploring journeys among the thick Chaparral and cactus, the alarm note of the bird always told of the nest being near. I shall never forget this wild little cry, which I may say seemed the essence of "true plaintiveness." On one occasion I stood within three feet of a newly made nest and was just going to examine it when the two birds suddenly darted in front of me like a flash. They did not seem to take the least notice of me and I stood perfectly still watching their movements. First one and then the other would fly into the nest, sometimes both together, for a moment, then out again and busily arrange a twig for a second, then dart off chasing each other like a flash; back again almost touching my face several times, all the time making a happy twittering sound and seemingly quite unconscious of my presence. I never expect to see a happier little pair, and I resolved that their home should never be disturbed by me. After watching them for fully five minutes, I moved and immediately the plaintive wail sounded and the birds disappeared. I lost the place for over three weeks after this and was not near it again for some time, when I did succeed in finding it again I could hear or see no birds, and though I repeatedly visited the spot after that, always very carefully and quietly, I never saw a sign of them, and finally found the nest half destroyed. Upon examining the inside I discovered it had never been finished. I do not think they remained after seeing me. This was in 1885.

These birds sleep in their nests at night. I have taken them alive. They are very brave and peck away spitefully at the intruding finger. The nests are occupied by them during the winter, and the inside made much warmer by more feathers being taken in. The outside is never repaired and one year will wear out a nest, though I have seen some nests which might possibly have been used two years. I think a new one is always made before eggs are laid, the old ones being simply used for sleeping purposes. An intelligent farmer showed me one of these nests close to his house, and told me he saw the bird carrying in feathers between Christmas and New Year's.

They are generally found nesting in the high dry parts of the country, away from tall timber, where the thorns are thickest, and travelling on foot a tedious undertaking. On a journey from Losoya to Carizzo Springs in Dimmit County, near to the Rio Grande, we noticed their nests, and found the birds everywhere evenly distributed, wherever the kind of country I have described as being their home prevailed.

Cactus Wren, (*Campylorhynchus brunneicapillus*). Quite common; five fresh eggs taken March 28th, 1884. Build in communities and nearly always in the tallest cactus, though I have found nests placed among bunches of mistletoe in mesquite trees fifteen feet from the ground. Desert their nests and build new ones for the slightest cause. I have often found the coach-whip snake coiled in these nests, and presume they like the eggs, and attribute the finding of so many deserted nests to this cause.

Carolina Wren, (*Thryothorus ludovicianus*). Not plentiful but undoubtedly build nests in the higher portion of the river bottom, among old logs and stumps above high water line.

Texan Bewick's Wren, (*Thryomanes bewicki leucogaster*). Abundant; six eggs taken March 26th, 1884, incubation commenced. Build in natural cavities of trees, woodpecker's holes, fence posts, in fact I may say I have found them in "anything and everything." Several sets of eggs taken from old Yellow-head Tit's and Cactus Wren's nests. I have found several nests built in a fork of a cactus bush, with a large prickly leaf for its roof or shelter, and was much puzzled to know what kind of nest it was till I saw the bird. I once told a little boy to put an old tin can in a brush heap and perhaps a bird would make a nest in it for him. About a week after I was surprised when the boy came and told me the bird had done so and laid an egg in it. I went with him to see it. The brush heap was fully a quarter of a mile from the house. On finding the nest the evening before, the boy had taken the can with him to the house with the egg and bird in it, and after showing it to his folks had placed it in another brush heap close to the house. Six eggs were laid in this nest, and the can containing bird, eggs and nest taken into the house on several occasions after dark to show to people. Finally on one occasion the eggs were broken in handling and the nest deserted.

While searching for their nest these little birds delight in keeping up an incessant scolding and should failure to find one be the result, the scolding immediately changes to the usual triumphant little song as the intruder retires.

Yellow-breasted Chat, (*Icteria virens*). Though I did not find the nest I am nearly sure at least one pair stayed to breed in a low, thick tangled spot on a part of the ranch. The birds were always there and quite late in the season.

Bell's Vireo, (*Vireo belli*). Common, make their nests in the lower limbs of the smaller growth of bushes among tall, well-shaded thickets generally about five feet from the ground. First nest taken April 25th, 1884, four fresh eggs. These are the only kinds of birds in this part in whose nests I found the eggs of the Dwarf Cowbird.

White-rumped Shrike, (*Lanius ludovicianus excubitorides*). A few pairs generally noticed about the same spots quite late in the season; lead me to think they nest here, but I did not find their nests.

Purple Martin, (*Progne subis*). Breed in martin boxes at the ranches. First eggs taken May 17th, 1884.

(To be Concluded.)

Winter Food of Birds in the South.

BY C. S. BRIMLEY, RALEIGH, N. C.

The mainstay of most of our birds during the winter is mainly berries and seeds of various kinds; some kinds of berries, however, being greatly preferred to any others. The two favorite kinds being the berries of White Dogwood (*Cornus florida*), and the little Frost Grapes; on the other hand the Red Haws (*Crataegus*), and the Swamp Dogwood (*Cornus sencia*), do not seem to be meddled with at all; at any rate not until all other kinds are pretty well used up. In February the hard, uninviting berries of the Sumach appear, to afford much satisfaction to several species. Robins especially seeming very partial to them, but the most curious fact I have noted this winter is the partiality to peanuts, not only of Redwing and other blackbirds, but also of Yellowhammers; a flock of which species amounting to several hundred, fed for nearly a month on waste peanuts left in the fields after the crop had been gathered in.

With these few remarks I will now proceed to the consideration of each species separately, commencing with the Thrushes:

Robin, (*Merula migratoria*). While with us in October they fed chiefly on Frost Grapes, and when they next appeared in January they indulged their appetites on the same fruit until they ate them entirely and then turned their attention to Holly and Cedar berries, also those of *Ilex decidua*, a very common shrub here. Later on they turned their attention to the Sumach berries, but in March as usual took up their regular habits of eating worms and insects in the open fields everywhere.

Hermit Thrush, (*Hylocichla pallasi*). Feeds indiscriminately on all kinds of berries throughout the winter—Dogwood, Frost Grapes, Cedar and Holly being the favorites.

Bluebird, (*Sialia sialis*). During October and November this species feeds entirely on Dogwood berries, but after they are all eaten, which generally happens about the first week in December, they don't seem to have any particular preferences until about the new year, when they begin to frequent the open fields, feeding on weeds, seeds and insects.

The Wrens, Tits, Kinglets, Nuthatches and Brown Creepers feed almost entirely on small insects and pupae which they glean from the bark and twigs of trees; occasionally varying their diet, however, with a few small seeds.

Pine Warbler (*Dendrœca pinus*). In October and November they were feeding on Dogwood berries with the Bluebirds; in December and January I only found them in the pine woods, feeding on insects and in February they were feeding on Sumach berries in company with Bluebirds and Robins.

Yellowrumps, (*Dendrœca coronata*). Poison oak berries up to about December, Poplar seeds in January and weed seeds a little later, seemed to form its staple diet this year, though it seems quite fond of insects and even in the depth of winter manages to do some flycatching.

Tit Lark, (*Anthus ludovicianus*). All I dissected this winter but one had been eating insects, including among others large grasshoppers which I should have thought too large for their ability to swallow, as they did, nearly whole.

Shore Lark (*Otocoris alpestris*). Some two dozen I killed this winter had been feeding entirely on small seeds of various kinds.

Cedarbird, (*Ampelis cedrorum*). They only occurred in any numbers in January and assisted the Robins to clear off the Frost Grapes, which task being finished they departed. A few stragglers observed at different times were feeding on Persimmons and Dogwood berries.

Gold Finch, (*Chrysomitris tristis*). Small seeds seem to constitute its only winter food; the sweet gum burs furnishing a plentiful supply all winter. Also feeds on Alder seeds and on weed seeds in the field.

Pine Finch, (*Chrysomitris pinus*). The Sweet Gum seeds apparently constituted its only food this winter, as I never observed it feeding on anything else.

Purple Finch (*Carpodacus purpureus*). In November it assisted the other birds to consume Dogwood berries, later on Poplar seeds seemed to be its staple diet till about the end of February, after which time I have most frequently found it feeding on the ground in the woods, but the contents of its stomach whenever dissected, have always been seeds of various kinds.

Savannah, Grass and Field Sparrows and Snowbirds feed chiefly on grass seeds, the latter species varying its diet occasionally with berries.

White-throated and Fox Sparrows and Cardinals were observed to feed largely on Frost Grapes and Holly berries.

Swamp and Song Sparrows whenever dissected, showed only seeds of various kinds.

Redwing, (*Agelœus phœniceus*). In November they pillaged the late corn fields; in January they fed in large flocks in the peanut fields, utilizing the waste peanuts. In March their chief food is spring oats, which are usually planted in the early part of the month.

Cowbird, (*Molothrus ater*). Grass seeds in October, oats in March.

Crow Blackbird, (*Quiscalus purpureus*). Corn in October and November; peanuts in latter half of February; oats in March.

Field Lark, (*Sturnella magna*). Feeds almost entirely on insects, chiefly grasshoppers in the fall, occasionally eating a few oats in the spring.

Crow, (*Corvus americanus*). Main food during all the winter was peanuts.

Blue Jay, (*Cyanocitta cristata*). Water oak and Red oak acorns in October and November; Beech nuts in December and January. After they have finished the Beech nuts, the majority seem to leave us.

Yellowhammer, (*Colaptes auratus*). Dogwood Berries, Black Haws, Sumach berries, Frost Grapes, Holly, and Cedar berries are all eagerly devoured by them during the winter. In February the majority seemed to have concentrated on a peanut field and they fed there for nearly a month, up to the middle of March in fact.

Yellow-bellied Woodpecker, (*Sphyrapicus varius*). Their principal food while here seems to be Frost Grapes and Dogwood berries; when these are gone, the yellow-bellies seem to go too. About one in ten contained insects.

Little Sapsucker, (*Picus pubescens*). Berries and insects constitute its winter food in about equal proportions.

Quail and Carolina Dove feed almost entirely on cowpeas, the former species being particularly fond of them; a "pea-patch" almost invariably being the feeding ground of a covey or two.

This about concludes my list, as I have not been able to collect sufficient data about any other species. One fact, however, deserves noting and that is that I have observed no birds feeding on Pine seeds this winter, although they usually are quite a favorite article of diet with many birds including the following; Brown-headed Nuthatch, Carolina and Tufted Tits, Pine and Gold Finches, Snowbirds and some others.

Baird's Sparrow in Fall.

BY L. JONES, GRINNELL, IOWA.

Although Baird's Sparrow (*Centronyx bairdi*) had been found in spring, when it appeared quite common, I had not been fortunate in my search for it in fall until October 4th, 1886, when I found it fully as common as in spring. Its stay, however, was short. A cold, wet time about the 15th drove it, with most of the other sparrows, south.

It seems to be a very shy bird, keeping well to the ground and scooting along through the grass at one's very feet; never rising far above the grass or weeds. It is in sight but a moment and drops again to the covert of grass. *C. bairdi* is commonest along fences where grass and weeds have been allowed to grow, and in neglected fields where a rank growth of weeds affords both food and covert. I have never seen it in bushy places.

Field Notes on Some Birds of Colorado.

BY CHARLES F. MORRISON.

Pica pica hudsonica (Magpie), April 3rd I secured four sets of from four to six eggs each. They breed abundantly about here; at least fifty nests can be found less than a mile from my door.

Nest, a high, bulky structure of sticks, lined with plenty of mud. Upon this fine twigs, rootlets and a top brim of softer material and horsehair, the whole covered with a dome-shaped arch of heavy sticks.

The above facts are well-known, but I beg to differ as to the well-known (?) hole or holes which is always mentioned in connection with this bird's nest. Not a nest I have seen, with or without eggs, finished or unfinished, has any perceptible hole at all, and the bird enters and leaves the nest through spaces between the sticks just above the nest proper, and in doing so makes as much trouble as a hen trying to pass under a gate (into the garden next door) that was about four inches from the ground. She simply squeezes through and I have now come to the conclusion that the hole left for the convenience of the bird's tail only exists in the dreams of some fanciful collector. The nests are usually placed in a bunch of saplings some twelve or fifteen feet from the ground, often against the trunk of trees where the main limbs begin in the bunch of heavy twigs so often found in this country in certain trees. Eggs similar to Crow's, much smaller. Measurements of a set taken April 22nd, 1.30 x .92; 1.26 x .93; 1.31 x .95; 1.27 x .94; 1.31 x .93.

Zonotrichia intermedia (Intermediate Sparrow). A flock seen April 22nd; answered all the descriptions but black stripes enclosing white crown interrupted by chestnut on side of forhead. As my copy of the "Key" has been exposed to the snows of the La Plata mountains all winter and its locality uncertain, having lost it last fall while on a trip, I am unable to find out if this is a peculiar plumage or not. Neither am I certain if it is Ridgeway's or the typical White-crowned Sparrow, or a combination of the two, or perhaps a new variety; at all events I find no mention of the chestnut in any of the books in my possession. The birds are abundant. Probably are migrating.

Gallinago wilsoni, (Wilson's Snipe). A solitary bird seen on April 10th during a heavy snow storm; the only one I have seen. It would fly but a short distance but was very noisy. I finally secured it by a wing shot, more luck than good shooting, as the snow was blinding.

Otus vulgaris wilsonianus, (Long-eared Owl). A nest of three eggs and female secured April 22nd. Nest an old Magpie's, in thick underbrush. Eggs 1.59 x 1.30; 1.68 x 1.30; 1.54 x 1.53.

I have noticed when taking the eggs of this owl that the male never shows up, while the female flys to an ajacent bush and keeps up a constant snapping of the bill accompanied with a cat-like mew, finally going off and will not return while you are in the vicinity. Quite the contrary with *Bubo virginianus*, in their cases the male and female will fly almost into your face, their great eyes staring at you, making one think he had better watch them. I once lost a small piece of my scalp with hair attached from one of this species.

The Tricolored Blackbird in Colorado.

BY CHARLES F. MORRISON, FORT LEWIS, COL.

Although I have found this bird (*Agelaius tricolor*) in the state it was under such circumstances that perhaps it will not hold good, as I failed to obtain specimens; a fact which I deplore as much, if not more, than anyone, still I would not be at all surprised to find it breeding yet. On Feb. 3rd, the weather having been warm and spring-like for some three weeks I took a trip down the La Plata towards the New Mexico line, some eighteen miles south of Fort Lewis, expecting to find a few migrants brought north by the warm wave; many species that winter in New Mexico often do this only to be driven back by a cold snap. While on my return trip and within a mile of home I heard some new bird notes which came nearer. I threw myself under a bush and soon a blackbird alighted just above my head, to be immediately followed by a flock of as many as thirty, all males. I became interested at once as I recognized *A. tricolor*. Many of the birds were not three feet from me and I had ample opportunity to observe them, while at the same time I could not shoot without blowing the specimen to pieces, and I was also afraid to move as it would at once send the whole troop off. The wind was blowing up a storm and the birds seemed to feel the cold as they huddled together closely and uttering their hoarse but very feeble croakings, (if the reader can find any other name for it they will greatly help me out). I noticed them for some time but was getting stiff from the cold myself, and having now thoroughly examined them I was itching for a shot and a skin, but such was not to be the case as the first movement I made sent them off into the thick underbrush and I saw them no more. I looked for them until it was dark and was back before daylight but it was now snowing hard and if they had not left for the south they were safe in some dense thicket, at all events they were gone as far as I was concerned.

The fact that not a single specimen of *Agelaius* was observed by me in this county (La Plata) the year before and up to date, April 30th, none have appeared this season, makes the occurrence of *tricolor* more interesting, but my attention has been called to the fact that the appearance of *A. tricolor* in Colorado is remarkable. I do not think so; this species is supposed to be entirely a Californian bird, but I see no reason why during the long winters they should not come up the Colorado river, thence along any stream running in an easterly direction, as the San Juan (pronounced San Wan); perhaps turned in this direction by indications of a cold wave, thence by the La Plata river a distance of eighteen miles would bring it under my observation and in the event of a sudden cold wave this eighteen miles would take them down to an altitude where snow never lasts long and where the Grackles, Bluebirds and many other species winter.

The birds observed by me looked smaller than the eastern Redwing, with the red patch nearly blood-red, the white border showing all the graduations between faint whitish to a pure white; some specimens showing no more white than some I have taken near Worcester, Newburyport and other Massachusetts localities, only in the latter cases the red was much lighter, perhaps might be called scarlet. I had noticed this fact in eastern specimens long before the birds were split up into the present three varieties (for I hold them to be varieties of the same bird).

I shall visit New Mexico and Arizona for *A. tricolor* this year and *I expect to find it*.

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Nesting of the Broad-winged Hawk in Chester Co., Penn.

BY THOMAS H. JACKSON, WEST CHESTER, PENN.

Though of general distribution in the Middle States, the Broad-winged Hawk (*Buteo pennsylvanicus*), seems to be nowhere abundant. In this part of Pennsylvania I think it may be considered a rare summer resident. For many years the woods of this county have been thoroughly explored in the season when our *Raptores* are usually found nesting, and although the Red-tail and Cooper's Hawks have always been found breeding more or less abundantly, but two or three authentic sets of the Broad-winged species have been taken.

The first one to my knowledge was a nest containing two eggs, taken by Mr. J. T. Price, on May 24th, 1875, in a wood near the edge of West Chester. These eggs were of the ordinary type, and quite handsomely marked.

Another nest of this species was found near Malvern in this county, on May, 1886. It contained a single egg, much incubated, and was positively identified, both birds having been shot at or near the nest. They had made their home in this piece of woods near the village, a locality that did not afford the quiet and seclusion usually preferred by these birds.

On May 31st, 1886, it was my good fortune to find my first and only nest of this species. I was exploring a wild tract of woodland and swamp, searching at the time for the nest of a pair of Kentucky Warblers (*Oporornis formosa*), that seemed to be home in this particular locality. The male warbler sat in an ash tree, singing for hours, quite tame and apparently having a mate and nest in this vicinity. While examining every tuft of grass, bush or clump of swamp cabbage in the neighborhood that might conceal the nest I so much desired to find, and moving in every widening circle around the tree, where the male sang undisturbed, my attention was quickly arrested by the shrill scream of a hawk—a noise resembling the grating of a large door upon its hinges. Looking up I saw the bird leaving a small nest about fifty yards away. It was about twenty feet from the ground, in a small black walnut, and so small and insignificant looking that had not the birds been seen so suspiciously near it I should not have troubled myself to climb to it. However, an easy ascent, without irons, soon revealed the precious contents—three exquisitely marked eggs of the Broad-winged Hawk. The nest was evidently an old one, probably constructed by Crows the previous spring. It sat deep in the hollow of a crotch formed by three limbs. The lining was composed of a scanty assortment of grasses, feathers and soft strips of bark. The eggs were advanced in incubation, the young having well developed feathers. I should think the eggs had been laid before May 15th. The parent birds were not shy, but kept within sight most of the time I was there, uttering at frequent intervals their loud cries. They remained in the vicinity for some time; late in June I heard them in the same woods, but was unable to again find them nesting.

The measurements of the eggs are as follows: 2.00x1.62; 2.00x1.60, and 1.99x1.61 inches. In all of this set the ground is of a dull grayish white, though in two of them the markings are so general as to almost obscure the ground. No. 1 is heavily blotched with rich brown at the smaller end, running back to the middle. No. 2 is marked in a similar manner though the markings are finer and smoother, as though laid on with a brush and having run together. The coloration of No. 3 is of a very peculiar and handsome form. Almost the entire surface is obscured by a light brown evenly laid on, with here and there a few heavy blotches scattered over the surface. At no place does the true ground color appear, while some of the shadings run almost into a purple.

The fact of having taken this set myself may have unduly prejudiced me in their favor, but to my eye they are unequalled in point of beauty by the eggs of any *Raptores* I have ever seen.

The Home of the Carolina Wren.

BY R. B. MC LAUGHLIN, STATESVILLE, N. C.

On an unusually bright and sunny day in January five years ago, becoming weary of the house, I shouldered my gun, whistled for my dog, and was soon off to the fields, whence the snow which had fallen a week prior had almost disappeared.

Having had luck after quail, I quitted the fields and took to the lowlands for the purpose of shooting the "cotton-tail" rabbit. While passing up a stream flowing across the place, about three feet high in a clump of ash trees, I observed an old coffee pot which had evidently been washed down from the village a mile above, and lodged there during high water. Having a morbid curiosity to take in everything, like most enthusiastic lovers of the feathered tribe, I began to scrutinize this weather-beaten relic. The pot was lying rather horizontally, yet there was sufficient slant to turn the top slightly up, with the bottom resting firmly against a tree, while the pot was supported on either side by trees which joined near the ground. The spout was turned downward and the lid missing. The snow which had fallen into the pot, had melted and been drained off through the spout, exposing a bird's nest half filling the inside, which I readily identified as that of the Carolina Wren (*Thryothorus ludovicianus*), the only species of wren breeding in this locality, and one of our most cheerful songsters. Being familiar with the habits of this bird, I took note of it, resolving to visit the spot during the next breeding season.

On my return in the spring, I found the old nest was being nicely remodeled, and new material added; while on a subsequent visit it contained four eggs, — the usual number being five, yet the set was complete and incubation begun. I remembered Samuel Rogers and "The martin's old hereditary nest," saying and feeling with all my heart "Long may the ruin spare its hallowed guest."

I rather wanted the nest but was not in special need of the eggs, so I determined to leave this strange home undisturbed, though I confess somewhat reluctantly at first. This nest was occupied for several consecutive seasons, but the pot has lately been removed.

The Carolina Wren, a common bird with us throughout the year, is one of the first to herald a break of the winter; selecting the pinnacle of some out-building or the topmost point of a pile of wood as a favorite perch from which it utters a song exceedingly loud for a bird of its size, and one in which I assume the Mockingbird takes delight, as there is none which he imitates with more frequency or greater accuracy.

Though this bird most frequently nests about old buildings wherever it finds a suitable place, it will build almost anywhere; in ivy vines, the crotches of trees, banks of small streams, sheaves of wheat and in a single instance I have found its nest on the open ground.

One morning I observed a pair carrying leaves and moss toward the barn, but supposing its nest could be found at any time I paid little attention to them. On the following day it was not so easily found as I had imagined, and it was after a diligent search that I found it in the tar bucket which hung in the wagon shed. A week later, becoming curious, I peeped into the bucket, and there — sad mishap! — was Mr. Wren down in the pitch and held fast. Yes, he had departed this life some days ago. I was sad, but entertain grave doubts about Mrs. Wren's having nursed much of the "silent sorrow" mentioned by Byron, since she mated with indecent haste, perhaps taking the philosophic view that her mate was about as dead as he would ever be; and on the third day after finding him she had repaired to a cavity in an old apple tree but a short distance from that wagon shed and was forming a nest. There was no doubt as to her being the same bird as she had a mass of tar on her head, which subsequently removed all the feathers, leaving her head completely bald. I took some fellow collectors to see her, who decided she had been here for some time. She reared her brood in the old apple tree.

A pair built annually in a wooden wheel, which was among the ruins of an old cotton gin that had been used during the days of slavery; while another pair on the place selected a negro's cupboard as a suitable place for its nest. It built there but once.

Having observed this bird closely from my infancy I decided long since that it would never be troubled to find a place for its nest.

Nesting of the Worm-eating Warbler.

BY SAMUEL B. LADD, WEST CHESTER, PENN.

After having devoted all my spare time the past season to my favorite *Helminthotherus vermivorus*, Worm-eating Warbler, and having been even more successful than I had anticipated, I shall be glad and feel recompensed, if, in giving my fellow collectors a few points, I can assist them in taking their eggs in the future.

First, I found it a great help in tramping last fall over localities where these birds would be likely to breed, and noting places where old nests were found; the lining of the nests rendering their identity, as the birds when not disturbed would probably return to the same ground. Then I began looking for and watching them this spring, (about May 1st, is early enough) and when I found them apparently satisfied with their position, and not moving about uneasily in the tree tops, I was almost invariably right in my conjectures. The peculiar trill of the male is of little assistance, but the chirp of the female often will be, after their full complement is laid, and lead you to their home. I have found eighteen nests containing eggs and six nests with young this season, from May 24th to June 15th, inclusive.

I have observed that these birds are not confined necessarily to hill-sides, as was heretofore supposed, as I have taken three sets on level ground and in rather open places, with little shade. The experience of Mr. Thomas H. Jackson of this place, who has taken ten nests this year, corroborates this fact. I have found that without exception their nests are lined with *Polytrichian* or hair-moss. Sometimes fine grass and horse-hair are used as part of the lining. The body or outside of the nests are composed of leaves only, and they were placed at the foot of either a sapling or small bush on the ground.

The eggs make a beautiful series, owing to their variation in markings, size and shape; some being very faintly marked with light reddish spots, mostly around the larger end, while some are very heavily blotched with lavender or a rich chestnut. The size ranges from .75 to .62 in length by .58 to .50 of an inch in width. Their shape varies from equal ended to quite pointed. The most remarkable set I have taken was on June 11th. After a hard and unsuccessful day's tramp, I heard a female Worm-eater chirping in an unusual place, and merely walked that way from habit, as I did not expect to find their nest in a spot with so little shelter. However, after sitting on a stump near the bird for some time, and not caring to have her wake the neighborhood with her cries, as she did not seem to be inclined to lead me to her nest, I hunted the ground pretty thoroughly, and soon found the nest in an open space where one would scarcely think it worth the time to look. It contained a young Cowbird nearly full fledged, also a Cowbird's egg, which contained a partly formed but decaying embryo, with five eggs of the Worm-eating Warbler, which might well be called a dwarf set. They are perfect in their shape and in their coloration and size of markings; in fact, perfect, except that they contained no yolk. Their measurements were respectively, .46 x .36; .46 x .36; .45 x .37; .42 x .36, and .42 x 36.

One would naturally wonder how so large a Cowbird could stay in this nest without breaking these eggs, but their shells were as thick as the average Worm-eater. The skin of the young Cowbird is now before me; it measures in length 5 3-4 in. Extent 6 1-4 in.

It was remarkable how tenaciously this little female fought in defense of the miserable young Cowbird. She would actually light on my back, flap her wings and snap her beak while I was taking possession of her little fosterling and nest of curios. Regarding the number of eggs laid by the Worm-eating Warbler, my 1887 series reads as follows: three sets of six each, ten sets of five each, and five sets of four each.

Nesting of the Red-bellied Hawk in Cooke Co., Texas.

BY EDWIN C. DAVIS, GAINESVILLE, TEXAS.

The Red-bellied Hawk (*Buteo lineatus elegans*), is not a common resident of Cooke County, nor could it be called a rare one.

They generally select for their breeding places the tall pecan and oak trees bordering our larger water courses, and also the tall oaks growing in heavily wooded " flats " or bogs.

I have found nests in the course of construction, and in fact ready for the eggs by the 5th of March; but as yet have never taken a full clutch of eggs earlier than the 18th of the same month. The nest is usually placed in the topmost crotch of the tree, where two or three large branches form. The construction is simply a large platform of sticks, built over with smaller sticks and grape vine bark formed into the nest. It is in almost every case lined with green leaves of the mistletoe; but as yet I have not found other kinds of green leaves, as the trees do not put forth leaves in North Texas as early as they do in the middle portion of the state.

The number of eggs laid are three or four. I have taken as small a number as two, but in such cases the eggs were extremely hard to get, and as I could not spare time to visit the nest more than once, took them while I had an opportunity. But at such times the eggs were perfectly fresh. Mr. J. A. Singley of Giddings, Lee County, Texas, in an article, (in current volume, March O. AND O., page 38), emphatically pronounces two or three eggs as the number laid by this species; and says he has heard of some "alleged" sets of four eggs, and has traced all of these large "sets" to a collector in Cooke County, Texas. He also states that he has examined over seventy-five nests containing eggs, and has never found four. I will here say that I have not, out of five year's collecting in Cooke County, had the pleasure of examining more than a dozen nests, and in every case excepting two, the nest contained *four* eggs. I mean by this the full sets of well incubated eggs.

Mr. Singley seems to infer by his article that *Buteo lineatus elegans* does not breed at all in Cooke County, and that they are permanent residents of Lee County. Now I will state that Mr. Robert Ridgway in a letter to Mr. Ragsdale of Gainesville, said he had never found this species east of the Rocky Mountains. And Mr. Singley wants to claim the honor of being the only person collecting eggs of this species in Texas.

Mr. Singley also says, "Mr. Ragsdale states that he has never found more than three eggs of this species in one nest." Since I read the above I have had a talk with Mr. R. and he says he has never taken a set of eggs of the Red-bellied Hawk. Mr. Ragsdale is not an "oölogical" collector and takes very little interest in eggs; but at the same time he is a great lover of birds, and one of the leading ornithologists of Texas. His occupation, during the breeding season, is such that he cannot spare time to collect; therefore, he cannot say positively as to the breeding of this bird in Cooke County. I have shot two different specimens from the nest, and positively identified them as this species. And on other occasions saw the birds as they left the nest, and easily identified them by the deep chestnut on their bellies.

Nesting Habits of the Clay-colored Sparrow.

BY J. W. PRESTON, BAXTER, IOWA.

The spring of 1883 I spent in the interesting lake region of Northern Iowa, and South-west Minnesota; after which I drove leisurely northward, camping where I liked, through Martin County flats, among the chain lakes, past Fairmont, Minn., Winnebago County, Good Thunder, and that romantic region about Mankato, where the Sioux Warrior contended so fiercely for his home.

Especially interesting is that part near where the Lasneur flows into the Blue Earth River. Tall-timbered bluffs shut in the swift, rocky streams, while not far distant on Lyons Creek that charming little cascade, Minneofa, leaps from its rocky bounds sixty feet into the chasm below, then rushes over rocks and among tree roots on its noisy way to the Minnesota River.

In this pleasant manner I travelled into the "Big Woods," around Madison Lake, where some time was spent fishing and studying the plants of that section, which were new to me; after which I returned homeward by a route leading past many lakes, through prairies and woods, via Albert Lea, Minn., and Mason City, Iowa.

On the 29th of June, while driving along the dusty road, between Bristol and Lake Mills, Iowa, a small Sparrow, (presumably *S. domestica*) flew into a clump of large bushes not five paces from my wagon. More to break the monotony than that I cared for the specimen, I secured the bird. The report of the gun startled another from the bush, when search revealed a handsome nest with four fresh eggs, which were secured with the parent bird. To my delight, they proved to be *Spizella pallida.* The late date I do not account for.

My next acquaintance with these charming little fellows was during the season of 1885 at Detroit, Minn., where, as a guest of Prof. W. W. Cooke, I had the opportunity of exploring the contiguous country which is diversified by lakes, larch swamps, woods and prairie. About the fringes of brush, near the borders of timber this species is to be found; where the low hills are half prairie, half brush. During the first week in June two nests were found, one a few feet from the ground in a small larch, the other on the ground in a tuft of grass. In both instances incubation was far advanced.

During the season of 1886 I was especially fortunate in securing a good series of eggs and some notes on their nesting habits.

On May 20th, I found them nesting, flitting and chirping among the bushes in a very energetic manner. They have little fear and allow one to approach very near.

On May 29th I succeeded in finding in all nine nests, three containing three eggs each; no more were laid three days later. Five had four eggs each and one contained five. All were perfectly fresh. They much resembled eggs of the "Chippy", (*S. domestica*) though rather more delicate in color. In most examples the reddish-brown markings tend to wreath about the larger end while others are almost unmarked, or with few straggling lines and specks.

The nests were composed of fine, round grass stalks, with a few grass blades, lined with long horse hairs. One had few hairs, but a heavy inner wall of tops of a delicate seed-bearing grass instead. The nests with one exception were on the ground in grass, at the foot of some low sapling or bunch of bushes. The exception was in the branches of a low hazel. Some were in short grass on a ridge in bushy pastures, others were in tall tufts of grass at the edge of grassy sloughs, the nest being neatly built into the tops of the grass.

The bird seldom will leave its nest until compelled by the too near approach of the intruder, and then slips out through the grass noiselessly to avoid detection. The song is a rattling *cheer-r-r*, uttered twice in quick succession, after which a short pause and then the same note over again. The male will sit singing thus by the hour, from the top of a favorite low tree or sapling. Another note is a dry *da-da-da-da*, sung as the former. The call note is an energetic *feet-feet-feet*, protracted or shortened as the birds incline, and much resembles the sound made by some insects, and is heard at mating time and when the male carries food, which latter is very frequently. When he nears the nest his sharp *feet* is immediately answered by the female, who comes hurrying to him. Both continue the note for a short time when the male vanishes, and the female makes her way cautiously back to the nest. This proved a sure guide to the nest if one could only succeed in following the quick hops and flights which the bird made, but it is tedious work. I have traced them thus and stood directly over the nest when the innocent little creature sat regardless of my presence. More than once have I taken them in my hand as they slipped away. A gentle tap on the grass, and the bird will hop up onto some low twig but a few feet away, sitting unconcerned while nest and eggs are being removed, though they often chirp impatiently. This neat species replaces the "Chippy" and is a lively feature of the regions where its song is constantly heard.

Night Heron's Nest.

BY J. M. W., NORWICH, CONN.

May 17th, I made my annual visit to the heronry at the east end of Fisher's Island, and two small fish baskets full of sets were taken, which was a small per cent of the eggs noted and will not cripple the usefulness of the colony. This heronry is not regularly harried and some seasons gets off scot free.

Fisher's Island is in Suffolk County, N. Y., is not commonly accessible from Greenport, and is an hour and a half's sail from the Connecticut shore. Formerly large, its population has fluctuated greatly of late years. In 1877 I found it reduced to fifteen pairs, but persecution ceasing for a few years, it rapidly increased and in 1882 it was at its maximum. The enormous nests then fringed even the low bushes on the outside of the circular swamp, and on being suddenly disturbed the birds rose like a great cloud. That year it was impossible to tell the number of birds, but this season, on coming out from the swamp I counted one hundred and fifty individuals perching on the tree tops and with those flying and covering eggs, and by a close computation of the nests, the colony is not less than six hundred to-day.

Entering the swamp, no nests are now found till one penetrates three rods from the outside, none at present can be reached from the ground but they are all in the tops of swamp maples and a few red cedars at an average height of sixteen feet. No empty nests were seen, May 17th, and no foot-prints or abrasions on trees, so this was the first visit this year. Though single eggs and pairs were found, yet there were many young at this early date. It was easy to tell the nests which held squabs by the broken egg shells below, and not difficult to pick out fresh sets by the spare lining of the tree trunks, and by the small quantity of ordure beneath the nests. Four was the average set, but five were not scarce, the proportion of large sets being about one in nine. No clutch of six was seen, no suspicion of markings, and owing to the long dry spell, the eggs were free from nest-washings. Incubation ran evenly through the advanced sets and the great majority of the nests with young examined held four. Fresh sets were told by a slight roughness, apparent by lightly running the finger tips over the surface. The series was of marked uniformity in size and shape and quite uniform in color. No egg had an excess of pigment nor did any clutch approach the white type. Nests holding lusty young, which were probably built in cold April weather, were large, substantial and well-hollowed structures; while those just built, were of the summer style of architecture, or flat form type and the eggs could be seen from below.

On first entering the swamp, I climbed isolated trees, but soon learning to group my nests would ascend only for three or more sets. To show how Floridian was the quantity of eggs here, I will add that I came down repeatedly with thirteen eggs in my baskets, and on my last ascension could look around on the adjacent trees and count forty-five eggs.

The white of a heron's egg is apt to be leathery when cooked, but the yolk is palatable and at the proper age the young birds are good for the table.

By sailors and the shore-dwellers the birds are only known as "Quawks," and the lovely Snowy Herons seen here sparingly on the migrations are called "White Quawks." One year, when the whole season was forward and the migrations early, I recorded this community of waders in full breeding activity May 6th; the young were shortly reared, and there was a fair proportion of second clutches June 4th. As the young are out of the nests before the summer excursionists swarm these shores, and the wanton shooter now meets with legal discouragement, this heronry bids fair to keep up its numbers for many years.

Nesting of the Whip-poor-Will.

BY WM. L. KELLS, ONTARIO, CANADA.

On the afternoon of May 19th, 1886, my son and myself took a nest-hunting ramble in the wild woods to the north-west of Listowel. The wind had been very high in the earlier part of the day, and it was not until after 2, p. m., that we concluded to start for the forest, and after about an hour we found ourselves approaching the region of our destination, the high, hard-wood timbered land, some distance on the west of Wild Wood. For some time our search led to no discovery worthy of note. The trees were putting forth the emerald foliage of summer; the woodland birds were in full song and on every side their appearance and melodies gave a charm to the senses of sight and sound.

Approaching a place where the underwood was low and thick, we heard the delightful song notes of the Wood Thrush (*Hylocichla mustelina*), from its deep shade, and on penetrating this its nest was soon discovered, placed in the fork of a small maple, with the female bird seated thereon. This contained four eggs, which showed that incubation had been several days in progress. Soon the notes of a Rose-breasted Grosbeak fell upon my ear, and I directed my son to look for its nest. In a few moments he called out that he had found it Going to the spot, however, I found that it was not the nest of a Grosbeak that he had discovered but that of a Hermit Thrush, (*Hylocichla unalascœ pallasi*). This was placed on some dry sticks near the ground, but among low bushes, where it was pretty well hid by the newly formed leaves, and though its set of eggs was but three, I found that they had been several days incubated. A few yards from this the nest of the Grosbeak was discovered in a small underwood, about eight feet from the ground, and containing four beautiful eggs. Having secured these, I directed my son to circle around the western edge of the thicket, while I took the other side, intending to meet him on the southern margin. We had nearly circled the thicket and were but a few rods distant from each other, when I was startled by the glimpse of a Whip-poor-will (*Caprimulgus vociferus*), rising almost at my feet, and after a short, fluttering flight it alighted on an old log near where my son was. On being again flushed she disappeared into the thick underwood. I gave a shout of exultation, for on gazing at the spot where the bird arose I discovered two beautiful eggs; the first of this species that I had ever seen in a state of nature. There had been no attempt at nest making on the part of the bird; the eggs were laid on a few dry leaves that lay flat on the earth, as they had fallen from the trees the autumn before and had been pressed down by the winter's snow. Near by were several small underwood, whose green leaves cast an agreeable shade over the nesting spot, while high overhead the branches and foliage of some monarch of the wood swayed and fluttered in the breeze.

These eggs are about one and a quarter of an inch in length, by eighty-eight hundreths of an inch in breadth. The general color is clear white, irregularly blotched, first by mottlings of pale purple, then by spots of a reddish-brown hue. They are of an equal length and both ends are nearly of the same size. One has much darker spots than the other, and these are chiefly in an irregular circle near the centre of the egg. The dark spots on the lighter one are more towards the larger end, while what may be termed the smaller end is larger than in the other specimen. They were placed close together and lay lengthwise on their leafy bed. They were perfectly fresh and one of them may have been deposited that morning.

After this find we proceeded still westward, and saw several nearly completed nests of Red-Starts (*Setophaga ruticilla*), and took another set of four eggs of the Wood Thrushes, sets of four and three of Hermit Thrush, and three of Wilson's Thrush (*Hylocichla fuscescens*) and found a partly formed nest of the Golden-crowned Thrush (*Siurus aurocapillus*), from which I afterwards took a fine set of four eggs. Returning homeward we again flushed the Whir-poor-will from her old nesting place.

I might here note that I heard for the first time this season the notes of this species on the evening of the 5th of May and as the weather became warmer their notes were heard apparently answering each other from various tracts of woodland in this vicinity, which seemed to indicate that they are becoming more common.

Bird Notes From the Pacific Coast.

BY H. R. TAYLOR, SAN JOSE, CAL.

A cousin of mine at Santa Clara, Cal., saw a flock of geese some time ago, flying in a southerly direction and, accompanied by a solitary duck of some small species, which was flying in a position third from the first goose of the line, and apparently flapping its wings with great rapidity in order to keep up with the flock. He was greatly surprised at the odd sight, having never before observed ducks flying in company with geese.

One day, some weeks after, while in the same locality, he noticed a single duck flying north with a flock of geese. The duck occupied the same relative position in line as the one seen before, and was he thinks the same bird.

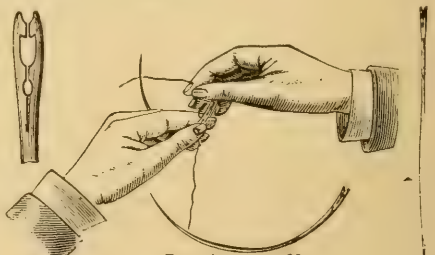
One of my friends saw a small sparrow closely pursued by a Sparrow Hawk and had about gived it up as lost when the sparrow darted suddenly to the ground and saved itself from its dread enemy by taking refuge in an old tin can. After the hawk had passed the sparrow came out of its improvised fortress and flew away in safety.

A new Needle for Ornithological Use.

BY W. E. SAUNDERS.

Readers of the O. AND O. who use ordinary needles for sewing their birdskins do not know what a luxury is in store for them when they invest in a surgeon's needle to replace the time-honored variety. The common needle punches a hole in the skin and when drawn through to the eye sticks, because the eye and thread are larger than the hole. Then the hole is torn larger and the thread dragged through until a a feather or a little cotton catches on it and it sticks again; it is then pulled back, the offending material taken off and a new start is made. We all know how aggravating this is, having experienced it many times.

In the surgeon's needle there is a great improvement, a sharp point with a broad, flat blade, which cuts a hole large enough to let the eye and thread pass easily and obviating subsequent entanglement.



PAT. AUG. 11, 1885.
F. G. OTTO & SONS, SOLE AGENTS.

But last fall was introduced the needle shown in the above cut and known as the Kraty needle. It has all the advantages of the old surgeon's needle and its superiority lies in the fact that it has a patent spring eye. To thread it, take the thread by the middle and pass it into the niche above the eye; the eye opens and the thread slips in, the whole operation taking but a moment's time, and it prevents us from having to lick the arsenic, cornmeal and blood from our fingers in order to roll the end of the thread into a sufficiently fine point to pass into the eye.

At a cost of fifteen or twenty cents these needles can be obtained from F. G. Otto & Sons, 42 East 23rd street, New York, and from most other dealers in surgical instruments.

I feel that I owe an apology to my brother ornithologists for keeping so good a thing to myself for so many months, but it was unintentional and shall not occur again.

Unusual Occurrence of the Red-winged Crossbill in Mass.

About the first of March a friend of mine who lives in Quincy, Mass., showed me nine birds of this species that he had shot in that locality the day previous. He told me that he also saw several large flocks the same day. One month later I visited the same locality and collected quite a number and saw the birds in abundance. These birds have been seen almost every day from March 1st up to the present writing. My friend, who has been collecting all winter, informs me that he had seen none of this species previous to the above date.

Now will some kind reader of the O. AND O. who is better posted on the movements of birds than I am, please explain why this species should occur in such large numbers at a season of the year, when they are commonly supposed to be breeding in the extreme northern countries?

Boston, Mass. J. F. W.

Entomological Department Errata.

JANUARY TO JULY.

Page 15th, first column, thirty-first line, for Weat read *Treat.*

Page 28, second column, fifteenth line, for palpe read *palpi.*

Seventeenth line, for ins read *ish patch.*

Thirty-seventh line, for odical read *apical.*

Forty-fifth line, for absolute read *obsolete.*

Page 29, first column, thirty-second and thirty-seventh lines, for Cirindela read *Cicindela.*

Second column, forty-fourth line, for Staphylnüdae read *Staphylinidæ.*

Page 31, first column, tenth and thirtieth lines, for phipheus read *rhipheus.*

Second column, twenty-second line, for Callydrias read *Callidryas.*

Twenty-seventh line, for Philas read *Philea.*

Forty-fifth line, for Calænus dide read *Colænis dido.*

Forty-sixth line, for Calænis read *Colænis.*

Forty-seventh line, for Anarilla jtlrophe read *Anartia jatrophe.*

Fifty-fourth line, for Uramia read *Urania.*

Page 64, second column, fiftieth line, for Belladouna read *Belladonna.*

Fifty-first and fifty-fifth lines, for Anphinome read *Amphimme.*

Pape 94, second column, forty-sixth line, for Linteneru read *Lintener*ü.

Page 95, first column, fortieth line, for Legulis read *Regalis.*

Forty-first line, for Regalis read *Erebus.*

Second column, thirty-fourth line, for Hentzu read *Hentz*ü.

The Great Northern Shrike and its Prey.

BY BENJ. F. HESS, PHŒNIX, N. Y.

In the spring of 1885 I had the opportunity of seeing a Butcher bird kill a meadow mole, (*Arvicola riparius*). It would strike the mole on the throat with its beak until it killed it. When I approached, the Shrike grasped the mole and flew or, fluttered rather, about twenty feet, when its burden seemed too heavy and it dropped its prey and alighted a short distance away. Again I shot one which was vigorously pursuing a Phœbe among some tall bushes. We have sufficient evidence of late to show that their food in this vicinity is mainly the English Sparrows. I have noticed that they are most numerous in the section of the town where the English Sparrows are in excess. A friend, Mr. Claude Maxwell, has found these sparrows hung in forked thorns of hedge fences, — evidently the work of these Shrikes.

[We have numerous reports of the destruction of the English Sparrow by this Shrike, and commend the protection of the latter bird, for this reason as a method of suppression. Ed].

YELLOW RAIL in Illinois. While collecting in a swamp a few miles from here, I killed a Yellow Rail (*Porzana noveboracensis*), which appears to be rather scarce in this locality. On the same day I secured one each of the Carolina Rail (*P. carolina*), Virginia Rail (*Rallus virginianus*), and King Rail (*R. elegans*), thus getting a specimen of nearly all the species of Rail of Illinois, in a small swamp of less than half a mile square.

GEO. B. HOLMES, Fernwood, Ill.

PURPLE GALLINULE in Mass. A Purple Gallinule (*Ionornis martinica*) was shot at Lake Quinsigamond, Worcester, Mass. on May 30th, 1887. A rare occurrence.

H. L. RAND, Worcester, Mass.

Fortunate Collectors.

The season of 1887 will always be pleasantly remembered by several collectors as being one in which many rare specimens of eggs were found.

Col. Goss has taken six sets of eggs of the Mississippi Kite, (*Ictinia subcærulea)* in Southern Texas, while Mr. J. A. Singley has secured seven sets of eggs of the Swallow-tailed Kite, (*Elanoides forficatus*) in Central Texas. Mr. J. R. Chalker has taken six sets of eggs of the Golden Eagle, (*Aquila chrysaetus canadensis*) in California; and Mr. Samuel B. Ladd has found nineteen sets of the Worm-eating Warbler, (*Helminthotherus vermivorus*) in the vicinity of West Chester, Pennsylvania; while Mr. Thomas H. Jackson has secured ten nests of the same warbler in the same locality.

J. P. N.

◆

Messrs. Elwin A. Capen of Canton, F. W. and C. H. Andros of Taunton, and F. H. Carpenter of Boston, Mass., returned the middle of June from the Island of Grand Manan, N. B. The above gentlemen are members of the Bristol Ornithological Club, under whose auspices the explorations were conducted.

A fine specimen of the Ring Billed Gull (*L. delawarensis*) was shot at the San Lais Lakes by Mr. D. O. Dornell, of Monte Vista, on April 4th, 1887. It was a male in the adult plumage. Two others of the same species were seen.

A. H. Woodbury. Monte Vista, Col.

Recent Publications.

We are indebted to Mr. Hurbert L. Clark for a copy of his "*Birds of Amherst and Vicinity*, including nearly the whole of Hamshire County, Mass." An introduction is given by Prof. C. H. Fernald, followed by "An artificial Key" for the purpose of enabling a novice to determine any specimen in hand. A list of 107 birds is given as of "regular and certain appearance in Amherst." Part II. gives a list of thirty-five birds, whose appearance is uncertain in Amherst but which may be common in other parts of the country. Part III. is a list of thirty-five "Birds extremely rare or accidental in this county." Mr. Clark has treated of 177 species, and the work makes a valuable addition to our state scientific literature.

Bulletin no. 2 of the Ridgway Ornithological Club is an extremely interesting document of eighty-five pages. It gives a brief resume of the organization of the Club and its constitution and by-laws. The leading article, "*Notes on the Birds of Southern California and South-western Arizona*" by Mr. G. Frean Morcom, gives by far the best account of the ornithology of the region that we have ever seen.

Another extremely interesting paper is *A Contribution to Our Knowledge of Albinism*, by Geo. L. Toppan, Esq., who presents an exhaustive summary of all the causes which may produce that phase of plumage termed albinism. About the only criticism we would care to pass upon so admirable a work is that it contains no index for reference, — something that no scientific treatise should lack.

Transactions of the Ottawa Field Naturalists Club, Vol. II. No. III.

Transactions of N. Y. Acad. of Sciences.

Canadian Entomologist.

Bird Migration by Prof. B. W. Evermann from *Popular Science Monthly*.

F. H. C.

CORRESPONDENCE.

Editor Ornithologist and Oölogist, Dear Sir:— A few words in regard to collectors may not be out of place. It is a great pity that we cannot have extended accounts from different sections in regard to our birds. In my wanderings the past ten years, I have realized the fact, more and more; many are content with simply obtaining all the specimens possible for their cabinets, regardless of any advance in the science, and by a constant series of exchanges in all parts of the country get together a collection which is only seen, or heard of, by a few local collectors, all of whom are anxious to have a collection of skins that will beat his neighbor's. This feeling is (of course), kept to himself; but is still the truth, (not as common however, in ornithology as oölogy). If these persons would spend part of the time in writing up descriptions, etc., for the public to read, that they spend in corresponding in regard to an exchange which when made proves to be a waste of time, ornithology would be benefited. Instead of this, many spend all the long winter evenings in arranging an exchange with parties in distant localities, and in eight cases out of ten he could not hold up his hand and swear that this party had not swindled him. These are the parties that should not receive permits to collect. Let the taxidermist take his place and mount all he wishes to *and sell them too* and I warrant the decrease in our "native song birds" will not be so great. At all events the "Tax" can make up a bird to look well while the other mentioned personages give us a caricature of what is, or ought to be, "a thing of beauty," and perhaps "a joy forever". More collectors are needed in this section, and if more were in the locality of the "four corners", (Arizona, Utah, New Mexico and Colorado), great things might be accomplished.

Charles F. Morrison.

AUGUST, 1887.

VOL. XII.

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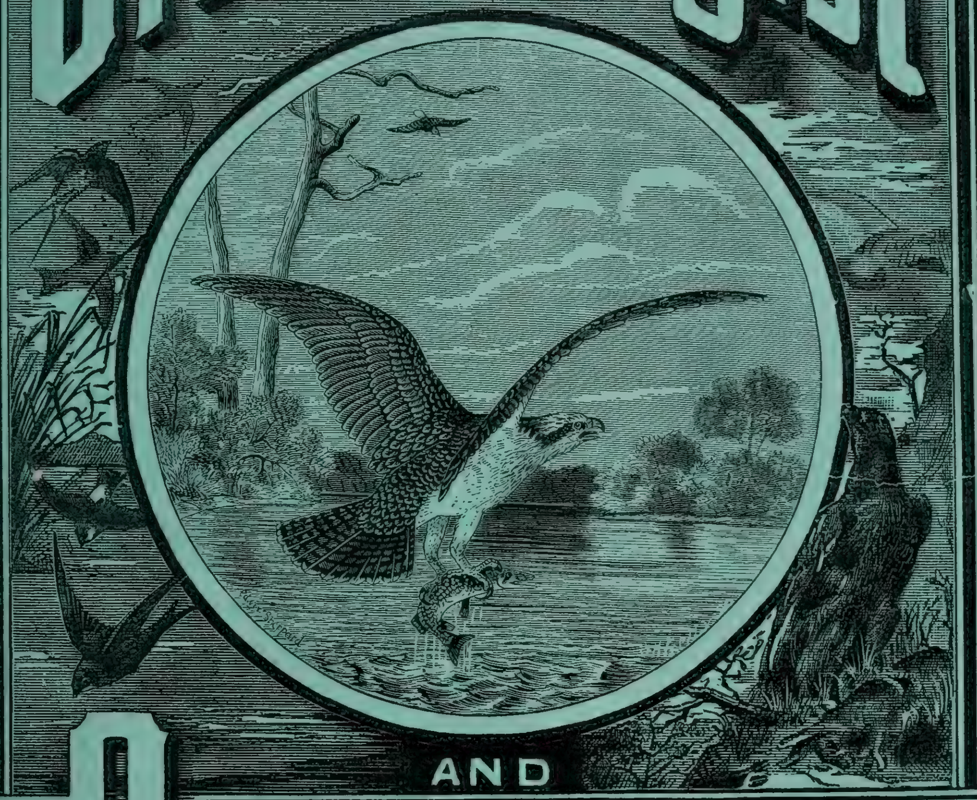

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VOL. XII. BOSTON, MASS., AUGUST, 1887. No. 8.

Our Local Raptores, Bristol County, Mass.

BY HILTON B. READ.

Says a writer on New England birds,—Mr. H. D. Minot,—"Size has always a fascination for the world. The young collector prizes a hawk's egg more than that of the rarest warbler. The egg is big, the bird that laid it is big, the nest in which it was laid is big, the tree in which the nest was built is big, and the wood in which the tree grows is big."

I confess to be under the sway of the "fascination", and although having passed the stage of life, in which I figured as a "young collector", yet my interest does not abate, nor my zeal flag, in the pursuit of king *Buteo*; neither does "size" alone draw me forth in search of my oölogical treasures, but rather the difficulties to be surmounted, prove incentives which allure me; for our birds of prey do not yield up their eggs without trying the muscular ability of the collector as he endeavors to ascend the smooth trunk of some forest monarch.

It is not my purpose to here give a list of the *Raptores* of our county, for it has been ably done by another; simply the brief stating of a few facts and observations noted afield but at the same time including all the species, which have been reported within the limits, and for which I am indebted to many friends for their assistance, in giving me such notes of occurrence, together with additional information regarding our commoner varieties.

Following somewhat the order of their nomenclature we turn first to

Long Eared Owl (*Asio Americanus*). This species has within the past four years, been absent from this county, to judge from testimony offered by our observers. Previous to that time, Mr. F. H. Carpenter, of Rehoboth, found two nests of the bird in Swansea, (O. & O., Vol. 8, No. 8). The first nest was found April 18, 1880, in an old Crow's nest, which a pair of Squirrels had piled with fine grass and leaves. It contained four eggs, measuring an average of 1.35 x 1.22 inches. Another nest was found near the locality of the first one. It contained three eggs, which were not taken. Incubation was found to occupy twenty-six days from the date of finding the nest and one of the young was taken and kept in confinement by Mr. Carpenter, in whose possession I have frequently seen it.

The latter nest was an old habitation of the Coopers' Hawk, The eggs were pure white in color and, as will be seen by the measurements. are nearly globular in shape.

Short-eared Owl (*Asio accipitrinus*). With the exception of a few, sometimes shot on the salt marshes in the southern section of the county, in the autumn, I can note no occurrence of this species within our limits. They have been found breeding in a salt meadow in an adjoining and similar named county in Rhode Island. Their nests having been found by Mr. F. H. Carpenter and as I had the pleasure of accompanying him to the locality, perhaps a description would be of interest.

In a corner of a salt marsh, of large extent, was a patch of rank grass and low bushes. In this place, after diligent tramping, on the morning of April 28, 1879, we flushed a Short-eared Owl from her nest on a "hummock", where by gathering together old reeds, she had "raised" her dwelling above the flow of the tide, which sometimes flooded the meadow to a depth of a few inches. The nest contained five eggs of same shape as those of *Aamericanus*, but somewhat smaller.

Barred Owl (*Strix nebuloca*). This species is quite common in our county and breeds sparingly, although more frequently than formerly.

I quote two instances of capture and two nests to which they yearly resort, in Rehoboth, (Carpenter). One specimen from Seekonk, (Miller) and three from Dartmouth, (Dexter), besides numerous observations. One was captured alive and is now in confinement in the

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house of a friend in Attleboro. One of their nests was simply a decayed cavity in an old walnut tree, in a grove not far from a house.

Two sets of two eggs each were taken April 7th and 25th, when the Owl resorted to an old nest of the Red-shouldered Hawk, and laid a third "set"? of one egg, which was taken, together with the old bird, May 7th. This nest has been occupied by the owls for a number of years, and it will be interesting to observe whether the male will return with a mate, to again establish a home. The set of eggs is usually complete with two, but three has been taken several times by both Mr. Carpenter and myself. The eggs are globular—as all Owl's eggs are—and when first taken from the nest are generally very dirty, owing to no lining being used to protect the eggs from the rotten punk on the bottom of the nest, but water soon brings out their true color, a creamy white.

Saw-whet Owl (*Nyctale acadica*). This, the smallest of our owls, occurs with us only as a rare winter visitor. While not so uncommon as to merit particular comments, yet I refer to the following dates of capture within our limits; Seekonk, Dec. 1880, (Miller), Seekonk, Jan. 1882, (Carpenter), Dartmouth. Jan. 1882, Mansfield, Feb. 1883, (Carpenter).

Screech Owl (*Scops asio*). A common resident of our county and regularly breeds, choosing some convenient hollow tree, without regard to its proximity to the habitation of man. One instance has came under my personal observation, of a pair of *Scops*, who annually bred in a hollow elm tree, in the front yard of a farmer's house, and to which members of the family would often ascend, by means of a ladder, and gaze upon the enterprising brood of owlets. The nest complement is usually four eggs, which differ from the foregoing only in being smaller in size. Nearly all are familiar with the two phases of plumage—red and grey—of this bird which cannot be attributed to either age or sex.

Great-horned Owl ,(*Bubo virginianus*). A rare resident, and not known to breed at present though it may do so. A series of their eggs, personally examined in the collection of Mr. F. H. Carpenter, comprises eleven sets of two eggs each, the result of a single pair of birds. The nest in this instance was made by the owls and placed in the forks of a tree which was half blown down but had caught in the branches of another. The usual period of obtaining the first set was between Feb. 27 and March 8, the two dates being the earliest and latest on which fresh eggs were found.

Snowy Owl, (*Nyctea scandiaca*). A rare winter visitor of more or less regularity. Have seen a specimen in the flesh but once, that being in the possession of a hunter who secured it in Dighton, Jan. 30, 1882.

Pigeon Hawk, (*Æsalon columbarius*). A rare visitor, most frequently observed in autumn. No record of its breeding, though it may have done so in former years, as has been proved in other localities.

Osprey, (*Pandion haliaetus carolinensis*). An abundant summer visitor. Breeds in the southern portions of this county, there being in the vicinity of Palmer's river quite a colony of them, occupying the adjoining swamps, though many of them build near the houses.

They arrive here about the last of March and resort to their old nests. By the tenth of May they have laid their full set of eggs, which usually consists of three, thought sometimes two, and in a few *rare* instances four are found.

Their eggs are handsome and, (as is the case with all colored eggs), vary in appearance, from deep chocolate and umber, to a light brown and dirty grey.

As they use the same nest for successive seasons, adding to it every year, it forms a conspicuous feature in the landscape after the foliage has disappeared.

Marsh Hawk (*Circus hudsonius*). This species is common in summer and has been observed in winter.

Its nest has been found commonly and differing from all other hawks it builds on the ground, usually in some clump of low bushes, on a hummock, near low meadows and marshes. The eggs are laid about the second week in May, and a complete set numbers five, and in some instances six, but principally the former.

The food of the hawk consists of frogs, mice and other "humble game" in search of which he may be seen quartering over the meadows or following some winding course of a brook, intent upon securing some unlucky *batrachian.*

This hawk is represented in all sections of the county and reports of the nesting have been received from nearly every town, conclusively proving it to be one of our most common *raptores.*

Cooper's Hawk (*Accipiter Cooperi*). Our commonest hawk. Breeds in all sections of the county. Arriving in number by the middle of March, though a few individuals remain during the winter.

By the first week in May they have laid their full complement of eggs and sometimes earlier, as I have found full sets April 25. Four or five is the usual number for a complete set, and only as exceptional instances, is so large a number as six found, although the latter number has been recorded as a set.

The nest is, in the majority of cases, built in a pine, and when viewed externally, resembles that of the Crow. The lining, if it can be called such, is simply small pieces of bark, lacking both the warmth and the interior arrangement of *Corvus.*

The eggs are, when fresh, of a white color, faintly tinged with blue, which in cabinet specimens cannot be observed. A few small brown specks are sometimes seen on some specimens; the eggs on the whole greatly resembling those of *C. hudsonius.*

Sharp-shinned Hawk, (*Accipiter fuscus*). This little *accipiter* is not common in our county and instances of their breeding are few. Such as we have received, however, are authentic.

Their nests were found in pines with one exception, and that was in a maple tree, in a thick swamp, and it further proved to be an *exception*, by the date at which it was found to contain its complement of eggs, well advanced in incubation, May 27th, an unusually early date for these birds, who do not usually lay their eggs before the first week in June. The number of eggs to a set is four, no other number being found. They differ from those of its congener, (*A. cooperi*), in having the ground color often obscured by splashes of different shades of brown.

This species has been observed in winter and we have two instances of its being taken at such times. Jan. 21, Rehoboth, (Baker), Dec. 28, '79, Seekonk, (Miller). As it has been considered rare to find them in winter, I deemed it proper to cite the above instances.

Goshawk, (*Astur atricapillus*). This handsome hawk favors us with its presence only as a fall or winter visitor, of considerable rarity. Several instances have been recorded and I quote Swansea, Nov. 1881, (Carpenter); Taunton, Dec. 1885, (Cahoon).

Red-tailed Hawk, (*Buteo borealis*). This species is not common in this county. It has been observed at all seasons and a few instances of its breeding have been recorded.

A nest found by myself in the northern section of the county, April 15th, '82 was placed in the forks of a large chestnut in swampy woods. The nest was quite large, about two feet across and from appearances I judged it to have been occupied for several seasons. The number of eggs was two, which is the usual complement for this *Buteo*, though three have been found in several instances.

I consider this species as somewhat local and much rarer in eastern Massachusetts than in the western portion of the state, for in April '83, I accompanied Mr. Carpenter on a trip to Berkshire county and we found *B. borealis* breeding much more plenty than its congener, *B. lineatus.*

Red-shouldered Hawk, (*Buteo lineatus*). This "Henhawk" is a common resident of, and breeds throughout the entire country, but probably more abundanty in the heavily wooded tracts of the western section.

Nesting is variable in time, having found fresh sets as early as April 16th and as late as May 11th, and in both cases I have positive knowledge of their being the first laying of the season.

The number of eggs to a set has been found complete, in number, with two, three or four, the two former numbers being more frequently found than the latter.

The eggs vary in color and markings, to a large extent, some having a nearly white ground color, with distinct blotches of various shades of brown, while others have the ground color tinged with drab, and lack the bright contrasts of the others. In the large series before me I fail to find any which follow a similar coloration or resemble each other, even eggs from the same sets, contrast more strongly than those from different clutches. This variation is as perceivable in the eggs of the Red-tail, as those of the present species. They usually resort to large woods, and place the nest in a *crotch* of some tall tree, of good sized diameter of trunk, and often occupy the nest for successive seasons; even when persistently harried by the collector they will return and build in the immediate vicinity, as has been the case with a pair from which I have secured clutches every spring since '78; they resorting to the same grove for nidification, building a new nest each season.

Broad-winged Hawk, (*Buteo pennsylvanicus.*) Only one instance of its capture in this county: Acushnet, April 12, '82, (Brown). It has been recorded as breeding in this section of New England.

Rough-legged Hawk, (*Archibuteo lagopus sancti-johannis.*) Another rare occurrence of this species is noted, viz., Attleboro' March, '81, (Reid), and is the only record of its capture within our limits.

Bald Eagle, (*Halliæatus leucocephalus.* This the largest of our *raptores*, occurs so rarely, as to merit notice, though probably it may occur on the coast more frequently than we are aware. The following instances are quoted; Swansea, July, '79, (Dexter); Dartmouth, August '81, (Brown); Rehoboth, July, '82, August, '84, and September, '85, (Carpenter); Somerset—Taunton River, July, '85, (Andros).

In terminating these brief notes on our *Raptores*, which I can but hope will stimulate our observers into further research regarding this interesting order of birds, and bring out such facts as will tend to enlarge our knowledge of their habits, and distribution in our country, I would acknowledge the assistance of Mr. F. H. Carpenter, whose extensive collection and voluminous notes, have been at my service.

The Flight of the Osprey.

BY FREDERIC H. CARPENTER.

To perform certain movements, not necessary to the work of simple existence, seems to be the function of all orders of animal life. We look for such display of physical powers with a theory of its variation, according to the development of the animate creation in which it exists. In quadrupeds and birds, size seems to be regarded when classifying such as indulge their playful propensities from their less active fellows. We look for more graceful movements in the agile squirrel than in the huge elephant, with varying degrees in intermediate proportions, and we expect to see the gaudy oriole flit about in pure ecstacy, but hardly the slow flapping heron. Certain conditions of procuring of food, or mating, may cause, at various times, nearly every known species to perform sundry aerial evolutions not consistent with its regular habit, but the reason from cause to effect is so apparent as to excite naught but admiration of the wondrous power of flight displayed.

Of all our orders of birds, none seem more prosaic than the *Raptores*. Even the quick-winged *Accipitre*, is only bent on foraging when he dashes swiftly in and out before us, and certainly no one would accuse the lazy *Buteo* of deviating from his business-like method of procuring his daily food. It will seem, then, the more interesting, as an oddity of nature, when we select from this order of birds, a species which displays this playfulness, when on wing, to a maximum.

Latter March in New England is but a step removed from stern Winter's rigorous sway. The beams of the sun, now drawing nearer, have scarcely tempered the rivers and bays from their icy chill. Expectant, impatient fishermen are awaiting that avian signal which shall proclaim to them that the time has come for them to eke their substance from the coming schools of herring as they return to their spawning grounds. The experience of former years is again renewed when the flute-like whistle of the Osprey is heard, but not alone, it is almost a chorus, and the eye can detect them soaring high above their old retreats. Even at this entré to their sojourn with us, their manner of flight strikes us as far different from other preying birds, as they swing about in graceful circles and elipties in pleasing sociality. They are not seeking their finny prey, nor have the affairs of nesting begun, yet they are at times almost hilarious in their demonstrative flight.

Again, a little later, when repairing their huge domiciles, I have seen them drop a stick purposely, and swooping down catch it again, for all the world like a gigantic swallow with a proportionate straw. Nothing but pure fun, as conceived in an Osprey's cranium, can promote such mid-air antics. A curious performance has been witnessed on several occasions on a fresh-water pond not far from their nesting colony. A number of Ospreys were seen to alight on the surface of the pond and buoying themselves afloat by means of wide-spread wings, would remain for a few moments in that position, then slowly rising would shake the water from their feathers and resume the usual fishing flight. No motive could be ascertained for this curious action, and it can but be placed on the same catalogue as the other erratic habits of this truly eccentric bird. A very striking and often noticed feat of the Osprey is its repeated soaring and pitching alternately. One may be seen flying at a certain height, when suddenly by a few rapid motions of its wings it will ascend to a higher plane, and then with set wings drop quickly to its former altitude. I have witnessed on one occasion one of these birds repeat this performance thirty-seven consecutive times within nine minutes. This tumbling is done at all seasons, and like its other remarkable feats can not be attributed to any cause, as far as my observation, covering over a score of years, can detect.

Individual characteristics have been frequently observed in the colony, but the foregoing traits are very pronounced, collectively, on the entire population.

All large birds are more moderate in action than those of smaller structure, and seldom do we see them in any flight than that which is necessary to their sober duties of life. Therefore it is the more remarkable when this species, one of the largest of our *Raptores*, presents itself to our notice in the role of a comedian. We do not criticise it. Would there was more of it in a world of too much tragedy. And what more stately or better formed bird than the Osprey to enact it.

Notes on Some Birds of Warwick County, Virginia.

BY CHARLES L. PHILLIPS, TAUNTON, MASS.

The following notes were made during a week spent in Warwick County, Va., at which place I arrived May 23, 1887, after a somewhat boisterous voyage of forty hours from Providence, R. I.; for which, however, I felt amply repaid by finding a locality propitious for bird life. My stay was not of sufficient extent to note all the birds of the locality. Using Ridgeways nomenclature, I commence with

Merula migratoria, Robin; abundant outside of the towns, but less familiar than in Massachusetts.

Mimus polyglottus, Mocking-bird; common, but rather shy. I did not see them far from the towns.

Galeoscoptes carolinensis, Catbird; very common, but kept concealed in the thickets that fringed the creeks.

Harporhynchus rufus, Brown Thrush; only a few seen.

Sialia sialis, Bluebird; common; no different habits noted than at the north.

Thryothorus ludovicianus, Carolina Wren; abundant around the creeks. They have a beautiful song which is frequently reiterated. I secured several fine specimens.

Dendrœca æstiva, Yellow Warbler; I saw a single individual.

Siurus auricapillus, Oven Bird; several were heard, and one shot.

Geothlypis trichas, Maryland Yellow-throat; common around the creeks.

Icteria virens, Yellow-breasted Chat; I secured several specimens of this bird. They frequented the dense thickets, from whence their scolding notes issued.

Myiodioctes mitratus, Hooded Warbler. I secured two male specimens in a swampy locality.

Vireosylvia olivacea, Red-eyed Vireo; abundant; their cheerful note may be heard throughout the day.

Lanivireo flavifrons, Yellow-throated Vireo. This bird was seen and heard occasionally in the mulberry and elm trees in the towns.

Lanius ludovicianus, Loggerhead Shrike; common around the plantation, where I secured several.

Hirundo erythrogastra, Barn Swallow; abundant. I saw young ready to fly.

Pyranga æstiva, Summer Redbird. I secured one pair of these gaudy birds and saw several more. They seem to conceal their brilliant plumage in the foliage.

Passer domesticus, English Sparrow. These exotic tyrants were as abundant and as troublesome as in Massachusetts.

Corturniculus passerinus, Yellow-winged Sparrow; common around the open fields, in the herbage. They have a peculiar, faint note, but when once heard, ever after recognized.

Coturniculus henslowi, Henslow's Sparrow. I secured a single specimen, a female, the only one seen.

Spizella Domestica, Chipping Sparrow; abundant.

Spizella pusilla, Field Sparrow; common; found in company with *C. passerinus*.

Melospiza fasciata, Song Sparrow; abundant around the plantations.

Cardinalis virginianus, Cardinal Grosbeak; common in the dense thickets, but hard to observe; their loud whistling notes betray them, however.

Passerina cyanea, Indigo Bunting; not very common. They are only found in the bushes which fringe the creeks.

Spiza americana, Black-throated Bunting; rather uncommon in this section; a few noted in the open fields, retreating to the thicket at first approach of alarm.

Sturnella magna, Meadow Lark; abundant around the plantations and seemingly less difficult of approach than at the north.

Quiscalus purpureus, Purple Grackle; abundant in the evergreen trees.

Corvus ossifragus, Fish Crow; abundant around the creeks, where they feed on the small crabs at low water. Their notes were uttered with more of a drawl than their northern congeners.

Cyanocitia cristata, Blue Jay; a few noticed.

Tyrannus carolinensis, King Bird; common. They annoy the crows and buzzards exceedingly.

Myiarchus crinitus, Great-crested Flycatcher; common around the towns.

Empidonax minimus, Least Flycatcher; only a few seen.

Trochilus colubris, Ruby-throated Hummer; I secured one specimen, others seen.

Chætura pelasgica, Chimney Swift; common.

Antrostomus carolinensis, Whip-poor-will. I heard these birds frequently.

Centurus carolinus, Red-bellied Woodpecker. I shot several specimens of this bird.

Melanerpes erythrocephalus, Red-headed Woodpecker; common.

Colaptes auratus, Red-shafted Flicker; a single individual seen.

Coccyzus americanus, Yellow-billed Cuckoo; I shot one specimen and saw others.

Tinnunculus sparveroides, Sparrow Hawk; These hawks were quite common.

Pandion haliaetus carolinensis, Osprey; several were seen around Old Point Comfort.

Buteo borealis, Red-tailed Hawk; a single individual seen.

Buteo pennsylvanicus, Broad-winged Hawk; I saw one which a negro had shot.

Cathartes aura, Turkey Buzzard; abundant. To be seen at all times of the day, either in large flocks circling in extended circles at an immense altitude, or sitting on the ground in groups, where they remain motionless for hours. Their carrion eating propensities are highly appreciated by the natives, and it would not be prudent to kill one if you desire the good will of the people.

Zenaidura carolinensis, Carolina Dove; common. I secured my specimens by concealing myself in a sand hole and shooting them as they flew over to their roost at night.

Ortyx virginiana, American Quail; very common in the thickets.

Garzetta candidissima, Snowy Heron. A few seen around the creeks.

Butorides virescens, Green Heron; common about the creek.

Florida cœrulea, Little Blue Heron. I flushed one of these birds from a small water course and dropped him on the opposite bank.

Rallus longirostris crepitans, Clapper Rail; I secured but one, a female, which I flushed from some tall grass.

Sterna dougalli, Roseate Tern; I saw these tern very frequently skimming over the waters of Hampton Roads.

Procellaria pelagica, Stormy Petrel; many of these birds were noticed playing around the steamship while out of sight of land.

Probable Occurrence of the Ivory-billed Woodpecker on Pritchard's Island, South Carolina.

BY WALTER HOXIE, FROGMORE, S. C.

While talking recently with one of the most successful and intelligent of our native hunters, he mentioned having seen last winter on Pritchard's Island "one of the old-fashioned big woodpeckers with a red and white top knot." He said that he was on his stand for a deer and the bird came close over him and he could'nt be mistaken.

To test his familiarity with the bird I showed him some cuts of woodpeckers, from among which he at once selected the Ivory-billed as being the bird in question, and he pointed out and described the difference between it and the Pileated. I cannot but give full credence to his testimony.

Pritchard's Island is near the middle of the Hunting Island group and more isolated than any of its fellows by the surrounding marshes and the narrow and tortuous creeks by which it is approached. It was formerly the most frequented of all by the Ivory-bills. I have not visited it for years and no one goes there now except an occasional party of deer hunters or fishermen.

* * *

Amount of Food Consumed by the Barred Owl

BY C. S. BRIMLEY, RALEIGH, N. C.

As a matter of some interest I give the amount of food consumed by a young Barred Owl from June 4th to 26th inclusive, viz. twenty-three days, while in confinement:

1	Purple Gallinule.
20	Catbirds and other birds of same size.
12	Birds size of Orchard Oriole.
27	Chipping Sparrows and other birds of same size.
10	House rats.
16	Meadow and other mice.
1	Lizzard.
2	Terrapins (flesh off).

In all eighty-nine animals, birds etc., an average of three per diem, which in round numbers would be 1,000 a year, and the Owl didn't get what he considered a full meal more than twice during the twenty-three days.

Nesting Habits of Texas Birds.

BY HARRY P. ATWATER, LONDON, ONTARIO, CANADA.

(Continued from page 105.)

Cliff Swallow, (*Petrochelidon lunifrons*). Nest under overhanging bluffs of the river. Common.

Summer Redbird, (*Pyranga æstiva*). A few nests found on the edge of the open sandy black oak country, on the lower horizontal limbs of oak trees.

Lark Finch, (*Chondestes grammica*). Very common; build a bulky nest on lower horizontal limbs in mesquite trees, generally among bunches of mistletoe. First eggs taken May 1st, 1884, fresh. One nest in 1885 found in a tuft of grass on the ground, in a small open clearing among mesquite trees. Perhaps more would build on the ground if it was not for the numerous snakes; the eggs in the one mentioned being gone on my second visit, and several snakes seen in the vicinity at different times.

Black-throated Sparrow, (*Amphispiza bilineata*). Abundant, and one of the first birds to build. Eggs four, pure white, but when blown have a decidedly bluish tinge. Nests of grass and weed stems, lined with a few horse hairs; securely placed in low thick bushes or cactus, generally three feet from the ground. Have never found one higher than four and a half feet. First nest taken March 29th, 1884, contained four eggs, incubation advanced. Probably raise two broods, as I have taken fresh eggs in the end of May both seasons.

Cassin's Sparrow, (*Peucæa cassini*). Common. One nest found May 2nd, 1884, contained four eggs, hard set. The nest was very similar to the Black-throated Sparrow, but placed on the ground among the roots of an evergreen shrub. Two other nests found in 1885 in similar positions, contained respectively four eggs and four young. The eggs are decidedly larger than the Black-throated Sparrow's; of a pure, smooth, glassy white and both ends rounded alike. These birds frequent the small open spots in the higher parts of the thorny brush and cactus country, and like the Black-throated Sparrow were never seen in open or timber country.

They are easily distinguished from other species by the curious mode they have of suddenly flying straight up in the air for about ten feet and slowly fluttering down in a straight line again, at the same time making a twittering noise, which I am unable to describe, but which I believe they only make while taking these short flights and which is unlike the usual chirp made by the same birds while hopping about in the usual way among bushes and on the ground.

Cardinal Grosbeak, (*Cardinalis virginianus*). Abundant. Fresh eggs taken April 1st, 1884. I fancy they raise two broods in a season, as I have found fresh eggs in June.

Texas Cardinal, (*Pyrrhuloxia sinuata*). Not as common as *Virginianus* and much more shy. Nests very much smaller than *Virginianus* and built of finer material. Begin to build two weeks later than *Virginianus*. Size and color of eggs of both species very similar, but as a rule the markings on the Texas Cardinal eggs are much clearer and darker, and much thicker at the large end, sometimes forming a ring and often covering the entire end.

Blue Grosbeak, (*Guiraca cœrulea*). A few pairs noticed both years, and one nest taken end of May, 1885, in a low spot from the lower limb of a pecan tree in a vegetable garden on the ranche. This nest is composed of corn husks and weeds lined with fine rootlets and contained four fresh eggs.

Painted Bunting, (*Passerina ciris*). Very common and many nests found in the cactus and thorny regions away from tall timber. Eggs four; nest generally placed in a low, thick thorn bush about three feet from the ground, composed of weed stems and grass, lined with a few horse hairs, very similar to Black-throated Sparrow's nest. First eggs taken May 12th, 1884. Fresh.

Black-throated Bunting, (*Spiza americana*). Very common; hundreds of flocks passed north during the migrations and many stopped to breed. They prefer the lower and damper parts and build in the highest limb or top of an evergreen bush that is found in the low spots of this region. On the 15th of May, 1884, I visited one of these spots and found about twenty nests nearly all completed and some containing four fresh eggs. Nests about five feet from the ground and quite bulky, compared with those of other birds of the same size. These birds seem to pass most of their time sitting on the top of these bushes and tall weeds, and keep up an incessant chirping from the time they arrive in the country.

Dwarf Cowbird, (*Molothrus ater obscurus*). Rather common, and only found their eggs in the nests of Bell's Vireo.

Orchard Oriole, (*Icterus spurius*). Hang their nests on the extremities of top limbs of mesquite trees; are common. First eggs taken May 13th, 1884; incubation commenced.

Bullock's Oriole, (*Icterus bullocki*). One nest found in 1884 and two in 1885. The first nest forty feet on the extremity of a live oak limb. All nests close to the ranche. On account of position I did not secure these nests and consequently have no record of eggs.

Great-tail Grackle, (*Quiscalus macrurus*). Breed at San Antonio, also at a point on the San Antonio River midway between Sosoya and that city. The San Antonio River joins the Medina about three miles south of Sosoya Crossing.

Scissor-tail Flycatcher, (*Milvulus forficatus*). Abundant. First eggs taken May 17th, 1884; fresh. This nest was composed of straws, grasses, pieces of twine, weed stems and rootlets, lined with fine rootlets and horse manure. They seem to prefer mesquite trees to all others, and make a bulky untidy nest of any kind of material handy, with no attempt at concealment; frequently long pieces of material hanging from the nest. In 1885 I noticed a pair of these birds commencing a nest in a beech tree close to the house. I placed a large handful of Spanish moss, turkey feathers and cotton in the crotch they had selected, and was surprised to find the nest completed and one egg laid on my return to the ranche after about two day's absence. Fifty hours at the most was the time I was away, including two nights. This nest is now in my collection.

Mexican Great-crested Flycatcher, (*Myiarchus mexicanus*). Not common. One nest containing five eggs nearly hatched found by a companion May 14th, 1884. Nest placed in a natural hollow of a live oak, fourteen feet from the ground, composed of weed stems, lined with cattle and rabbit hair. No nests taken in 1885.

Black-chinned Hummingbird, (*Trochilus alexandri*). Birds abundant. One nest containing two fresh eggs taken from lower limb of a large pecan tree on river bottom, May 20th, 1885.

Chuck-will's-widow, (*Antrostomus carolinensis*). Several of these heard at night about the edge of the sandy black oak country. They undoubtedly breed here, but no eggs taken.

Poor-will, (*Phalænoptilus nuttalli*). Several specimens of these birds taken and there is not the slightest doubt but that they breed in the vicinity of the ranche.

Nighthawk, (*Chordeiles popetue*). These were quite common, though I did not find any eggs.

Texan Sapsucker, (*Picus scalaris*). Not common; found no nests in 1884. In 1885 I found a nest containing young, on May 15th but did not disturb it. It was in a mesquite tree, the hole being about fifteen feet from the ground in the body of the tree, which was a live one.

Golden-fronted Woodpecker, (*Centurus aurifrons*). Very common and many nests found; generally in a decayed mesquite stump, and often within a few feet of the ground. Also found nests in telegraph poles and fence posts on the San Antonio road. Eggs five and six, often very pointed at one end. First set of five fresh eggs taken April 21st, 1884, from a hole eighteen inches deep in a mesquite stump. On May 6th, in the same stump I found a fresh hole dug out, two feet above the old one, and about six inches deep, containing five more fresh eggs. It is very probable they were laid by the same bird.

Road-runner, (*Geococcyx californianus*). Quite common and many nests found. First eggs were brought me by a Mexican, April 3rd, 1884. Fresh.

Yellow-bellied Cuckoo, (*Coccyzus americanus*). Common. Nests generally found on lower horizontal limbs of mesquite trees. Two nests, one Black-throated Sparrow and one Black-throated Bunting were found, each of which contained in addition to four of their own eggs one other of this species.

Barred Owl, (*Strix nebulosa*). Breed in the river bottom in holes in the tall trees, but are not very common. I did not climb to the nests.

Texan Screech Owl, (*Scops asio maccalli*). One set of four fresh eggs taken from a hollow black oak limb, April 25th, 1884. They are not common. One of these birds was brought me on April 21st alive. It was placed on a keg, and during the night laid one egg. As it did not repeat the performance, I preserved the specimen.

Great-horned Owl, (*Bubo virginianus*). Quite common round Sosoya. A nest containing three young was taken in 1884 from a nest made of sticks, placed on a large fork of a live oak tree close to the ranche. On Feb. 26th, 1885, while passing the same tree, I noticed an owl sitting on the same nest and found three fresh eggs.

Caracara Eagle, (*Polyborus cheriway*). Quite common and breed here; two nests taken in 1884. First set, April 14th, contained two eggs, one addled and the other much advanced.

Swallow-tailed Kite, (*Elanoides forficatus*). Frequently seen, and specimens obtained during the breeding season. They undoubtedly breed at Lagoon at Grey Town, ten miles down the river from Sosoya. Where there is abundance of tall timber.

Harris's Hawk, (*Antenor unicinctus harrisi*). Very common and several nests found both seasons. Build in tops of mesquite trees and live oaks about twenty feet from the ground. March 24th, 1884, first nest, three eggs, incubation commenced.

Red-tailed Hawk, (*Buteo borealis*). Not as common as Harris's Hawk, and though I did not find them, I am satisfied that at least two pairs had nests in this vicinity.

Red-shouldered Hawk, (*Buteo lineatus*). Not common. One nest taken from a cottonwood tree on the river bottom March 26th, 1883, contained three eggs, incubation commenced. In the following season another set of three eggs was taken from this same nest.

Turkey Buzzard, (*Cathartes aura*). Breed in holes or caves on the river bluffs. Two fresh eggs found March 2nd, 1884.

Black Vulture, (*Catharista atrata*). Lay eggs on the ground close to old logs. Several eggs brought by Mexicans both seasons, found while hunting cattle in the dry black oak country.

Mourning Dove, (*Zenaidura carolinensis*). Very common, and generally make nests on lower horizontal limbs of live oak and mesquite trees. First eggs found May 10th, 1884. Fresh.

Mexican Turkey, (*Meleagris gallopavo*). Not common, but breed in this vicinity.

Texan Quail, (*Ortyx virginiana texana*). Abundant, and many nests found while cutting oat crop; also frequently lay in chicken nests in brush piles near to ranches. Commenced laying about 6th of May in 1884.

Killdeer, (*Oxyechus vociferus*). Common and perhaps raise two broods.

American Anhinga, Snake Bird, (*Plotus anhinga*). These birds are found at the Grey Town Lagoon, before mentioned and undoubtedly breed there.

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The Number of Eggs Laid by the Great-Horned Owl.

BY DR. W. S. STRODE, BERNADOTTE, ILL.

After reading Charles F. Morrison's article in the O. AND O. for April, on the number of eggs laid by the Great-horned Owl, it occurred to me that my experience with this interesting bird during this season of 1887, might be of interest to the readers of this journal, and also throw some light on this subject at least for the "Spun River Region" of Illinois.

January 26th. Took first set of *B. virginianus*; number of eggs two, incubation fresh. Nest forty feet high on large limb of a white oak tree, close to body, and apparently built by the owls.

February 27th. Took another set of two from same birds. Nest a half mile from first, and in a red oak, about thirty feet up in forks, and also built by the owls. Each nest being a low flat structure, composed almost entirely of sticks and a few leaves and feathers on the inside.

February 1st. Found a Bubo's nest in a white oak, containing one fresh egg. The lay apparently not completed. Both birds were present and gave me a fine serenade as I was making the ascent.

February 18th. Found a nest in an old red oak snag, about thirty feet high. Could see the bird's ear tufts above the cavity. The climb a hard one, but with the aid of a good pair of climbers I succeeded in getting up, and found three very nice eggs, slightly incubated.

March 8th. Found this same pair nesting in the hollow top of a large white oak, about fifty feet high, and about two hundred yards from the former nesting place. Going up I found one fresh egg. Coming that way again on March 12th and 15th the old bird flew out on rapping.

March 20th. I again ascended the tree and found three more eggs, in which incubation had commenced, these appearently being a completion of the set. I have this prolific pair under observation for the third time, thinking possibly I might even get a third set.

March 8th. A boy brought me a set of two that he had found in a nest which the birds had probably built.

March 22nd. I located this pair nesting in the same woods; the nest about forty feet high, in the forks of a small elm. Going up I found two fresh eggs. The nest was a pretty neat structure, and built by the owls.

February 21st. Found a nest in an old red oak snag, about twenty-five feet high, containing two eggs slightly incubated.

March 13th. A boy brought me one fresh egg that he had found in a nest in a tree. Probably an incomplete set.

This comprises the eggs taken this season, but I found other nests.

March 13th. Found an owl on a nest about seventy-five feet from the ground, and away out on a limb. The tree was a red oak, three and a half or four feet through, and forty feet to a limb. A tremendous climb. But tying up my horse, I strapped on my climbers and went up, up, up, until I neared the nest. The parent birds came quite near, snapping their bills and keeping up a continual hooting. Imagine my disappointment after this perilous climb to find the nest occupied by three downy young of different sizes, and a half of a rabbit's carcass!

March 24th. Found a family of three young *Bubos*, in the downy plumage, in a hollow, soft maple. This nest also contained a half-eaten rabbit.

March 30th. Found two nests of young owls, one of three in a hollow elm, about fourteen feet from the ground. The other of three also in a nest in a white oak forty or fifty feet high. Did not disturb any of those young.

SUMMARY FOR THE SEASON.

Number of eggs found,	19
" young Owls,	12
Total,	31
" sets containining 4 eggs,	1
" " " 3 "	1
" " " 2 "	5
" " " 1 "	2
" nests built in trees,	8
" " " cavities,	5

From this summary it would appear that the usual number of eggs laid is two or three; but as the set of four shows the rule may be varied from, even in this latitude.

[Dr. Strode's experience as to the number of eggs laid by this bird agrees with that of collectors from all parts of the country, with the exception of Mr. Charles F. Morrison's phenominal sets of six. Perhaps, however, the latter gentleman fed the birds on "Bird Invigorator" to make them lay a large number of eggs!

In one particular, however, Dr. Strode is in error. He found one egg (fresh) on March 8th and removed it. He tells us that he again visited the same nest on March 20th, when he found three more eggs, in which incubation had commenced. He then calls the four eggs one set! This is incorrect. The first egg having been removed, the birds commenced to lay a second set, which consisted of three.—J. P. N.]

Nesting of the Brown-headed Nuthatch.

BY C. S. BRIMLEY, RALEIGH, N. C.

Previous to this year my experience in regard to the nesting of this bird was very limited, only one nest having come under my observation; one found in the early part of June, 1885, containing four full-fledged young. The nest was of grass, in a hole in the side of a fence post. Just above it was an old unused nest precisely similar to the one below.

Last year, 1886, I found no nests, though I watched a pair working at a hole in a dead willow for some time; but when after allowing them, as I thought, sufficient time to build the nest, lay eggs and commence incubating, I went to get the eggs on April 24th, I found nothing in the hole at all, not even a nest, although the birds exhibited great distress and anxiety; nor could I find any other hole which might have contained one. This year, however, I have been somewhat more fortunate, having found three nests, only one of which contained eggs, the other two young.

The first nest was found on April 13th. The day before an acquaintance of mine, who knew my ornithological tastes, told me he knew of a Tomtit's nest in a stump near his house. On going over next day to investigate, I was both pleased and surprised when on approaching the stump a bird flew out of a hole in the side and settling on the trunk of a neighboring tree, was immediately identified as a Brown-headed Nuthatch. I at once set to work to investigate, and cutting away the sides of the hole, six eggs snugly ensconced in a lining of grass, lay at the bottom of the hollow about nine inches below the entrance, which was only some one and a half to two feet from the ground. The eggs were all thickly spotted, three of them so much so as to almost hide the white ground color.

The discovery of this nest encouraged me to look for more, and three days later, on April 16th, after watching a pair for some time, one of them flew off and lighting on a dead apple stump in an orchard close by, went into a hole.

I quickly followed, and on my approach the bird flew out again. On cutting away the sides of the hole I found six half-grown young in a nest composed of grass. The hollow was nine inches deep. The entrance hole was almost perfectly round, as in the previous one, and just large enough to allow of two fingers being thrust in.

My third nest was found on April 20th, while searching for Hooded, Worm-eating and other swamp warblers in a piece of marshy woods adjoining the creek. While thus employed the behavior of a pair of Nuthatches led me to think they had a nest close by; so leaning against a tree I stayed to watch them, and after a few minutes waiting one flew into a stub standing close by in the water and entered a hole some four feet from the ground. On wading to the stump I found as usual, I could not find out the contents of the nest without breaking away the sides of the entrance, and on doing so discovered five young, some two or three days old and an addled egg. This egg has the spots arranged chiefly in a wreath round the big end, and measures .61 x .47; (the six eggs I found in my first nest showed no appreciable difference in size or shape from this). The nest as usual was a mere lining of grass and fine weed stems. Nine inches deep in the hollow.

My experience this year leads me to think that in former years I have been too late in looking for the nests of this bird, and I hope to do better next year by looking earlier for them.

Both the broods of young mentioned above, grew up and left the nest without any misfortune, although exposed through my investigations to the full view of any passer-by, human or otherwise. As they gradually took on their full supply of feathers I noticed as in the case of the young found in 1885, that the feathers of the crown were bluish like those of the back, and with not a trace of brown, but the nuchal white spot was quite conspicuous. As I have never taken a specimen with the crown bluish, I presume the brown is assumed with the fall moult.

In conclusion I may state that the broods of young appear to keep together till they pair in the following spring, and invariably seek their food in company with their parents in the pine trees. For purposes of comparison, I give average measurements of this species and the Red-bellied Nuthatch, both from specimens taken here: Brown-headed Nuthatch, (*Sitta pusilla*) L. 4.21, W. 2.51, T. 1.31, E. 7.87. Red-bellied Nuthatch, (*Sitta canadensis*) L. 4.35, W. 2.54, T. 1.35, E. 7.92.

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The Two Species of Kinglet as observed at Raleigh, N. C.

BY C. S. BRIMLEY.

Ruby-crowned Kinglet, (*Regulus calendula.*). This active little bird is quite common here during the winter months; arriving in the fall about October 19th, and becoming plentiful a few days later. It remains common till the first week in April, the last specimens being usually seen about April 13th, a week or ten days after the bulk have left us for the north.

It is very sociable in its habits while here, being generally found in large numbers in the pine woods in company with the Gold-crowns, Brown Creepers, Pine Warblers and Brown-headed Nuthatches, all of which birds associate together during the winter months in this locality, feeding on pine seeds and whatever insects they may find. It is also found sparingly in other situations, but rarely in any numbers, one or two being often found in the alders along the banks of streams or in the oak and mixed woods, but rarely more in any one spot.

Though quite tame and fearless in disposition when undisturbed, I have often noticed, both with this species and the Gold-crown, that when one or more are killed, the remainder of the flock get very wild, keeping to the tops of the trees and flying rapidly forward when approached, uttering all the while their faint chips, which with the exception of a sort of chatter, something like that of the Carolina Wren, is the only note we hear here till they burst into song about the end of March. After being alarmed as above by some of their number being killed, they will generally if unmolested become nearly as tame as ever in from half an hour to an hour or more's time, but in this case easily take alarm again.

During the early part of its sojourn with us, most specimens seem to be in full plumage, very few lacking the crownpatch. Later on the number of dull birds seem to increase somewhat, though my observations make me believe that more than one-half of those that stay here are in adult plumage. In this connection it seems worthy of remark that on January 15th of this year, my brother shot a male with the crownpatch orange, and two more, also with orange crownpatches, on the 18th. Several were also shot a little later having the crownpatch not so bright as usual, inclining somewhat to orange, which lead me to think that possibly the orange patch might occasionally be orange at first, turning to red afterwards; and I was also inclined towards this idea by the fact that these specimens which had the crownpatch orange had the orange feathers brownish, like the rest of the upper side at their tips.

Gold-crown Kinglet, (*Regulus satrapa*). Rather more abundant if anything than the Ruby Crown, and very similar in habits. This handsome little bird arrives here about the same time as its relative, but leaves a week or ten days earlier; all departing at once and none seeming to straggle behind as in the case of its congener. This species is more strictly gregarious than the Ruby Crown, solitary individuals being rarely seen. It also confines itself more closely to the pine woods than the other species do, being seldom found in any other situation.

The notes of this species are very similar to that of the other. both a chip and a chatter being frequently heard. The song is, however, different, but not often heard. On April 1st I came upon a good-sized flock in some mixed woods (small pines predominating), in full song; the only time I remember to have heard it and I could not at first make up my mind that the unusual melody proceeded from these usually quiet little birds.

The Wood Ibis in South Carolina.

BY WALTER HOXIE, FROGMORE, S. C.

To the casual observer the Wood Ibis, or "Gannet" as it is here called, is a very conspicuous bird in the southern parts of South Carolina during the summer months. About the coast islands they may be observed on nearly every hot afternoon, sailing high in air with outstretched legs and neck, now showing their snowy white plumage and at the next turn presenting the glossy black of the wings and tail to view. But the ardent collector will see them in many other positions, and among interesting and peculiar surroundings. And truly ardent must the collector be who will successfully follow these big birds among all their haunts and thoroughly study their habits in this their summer vacation.

The early sunbeams reach them perched on the branches of some tall dead pine. One by one the long, ungainly necks are stretched aloft side ways and downwards; wings are shaken and the whole party indulge in a general limbering up. At last the old fellow on the highest branch, after a succession of balances and squattings, as if uncertain of the proper bearings, shoots out upon the air and one after another the rest follow, those on the lower limbs being the last to leave. Away they go over the rocks and pools searching for a good feeding ground. Occasionally one who thinks he has spied out a well-stocked ground swings out from the party to reconnoitre. Should this search prove successful, which is signified by a series of delighted croaks, the whole flock make haste to join him and for the fish "trouble begins." The Gannets dance about in the shallow water until their prey is suffocated with the mud they stir up, and then proceed to breakfast. This "dancing" seems to be their only method of capturing prey and their motions and expressions are ludicrous in the extreme. The necks are all stretched straight up and the bill elevated at a slight angle. The faces all wear a care-worn expression and the wings are constantly used to aid in balancing while the big legs churn rapidly up and down. The process is long or short, according to the number of birds and the size of the pond. I have seen two birds attempt to dance a pond of nearly an acre in extent. They worked until exhausted, without success, and at last after resting a while departed in disgust to join some larger flock. But as a rule half an hour or so serves to get breakfast. If not gorged at one spot the flock repair to another, and it is not until thoroughly satisfied that they all soar high aloft and wheel in broad circles, as noted in the beginning of this article.

In the general scramble for breakfast, some few do not succeed in getting their fair share and while the rest are performing their graceful aerial evolutions, these disconsolate, hungry souls are moving rapidly about among the smaller puddles, doing their best to "splice out their belly timber." This is the collector's last chance to obtain specimens. These unsatisfied birds "store" well — indeed eagerly. A miserable "rag baby" affair filled with moss and propped with a stick often proves a lure for three or four of them on a hot noon tide. I know of nothing like it to tax the patience and nerve of a man. Hidden in a clump of dense marsh grass, no breath of air can reach you; the air flickers with heat and the sand fles run riot over hands and face; no sound but the trickling of water and the splashing of fish in the pool before you. Once in a while a heron, or perhaps a whole flock of them, tops the marsh and are down again out of sight. At last a Gannet just shows himself and then wheels away. Will he come? No, he is getting farther off. You make a savage onslaught on the sand flies and think, or if you are that kind of a man, say some bad things, pull your feet out of the mud and try to change your cramped position. The first thing then is a swerve of mighty wings on the right and down pops one of your expected birds right beside your stool. Eights in the neck or double B right at him secures your prize, but don't try to pick him up. The shot has probably scared others that were feeding near at hand and your chances are good for one or two more in a few minutes.

In the afternoon the soaring flocks descend and procure their evening meal, and as night approaches return to the same roosts which they quitted at day break. Such is the daily round of duties of the Wood Ibis when on their summer visit to us.

In regard to the numbers in a flock, I should say that from fifty to a hundred might be a fair average. But I have seen flocks that must have counted up into the thousands. One last summer was over a mile long.

Adult birds are very rare. It is many years since I have obtained more than one specimen. This one now before me shows pink feathers under the wings, a color which I do not find mentioned in any description of this bird, and which I have never seen except in this specimen. The adults probably do not wander far from their breeding quarters.

Of the edible qualities of the Wood Ibis I can say nothing from experience. The negroes esteem it a delicacy, but I am told that they bury the body in the ground for a day before cooking it, in order to draw out the fishy taste. Be that as it may, the bodies from my skinning table readily bring fifty cents apiece.

An Egg Lifter.

BY WALTER HOXIE, FROGMORE, S. C.

The sun was low, the tide was low and my spirits were low, as I jogged back to camp along the beach with absolutely nothing in my bag. But suddenly my spirits rose like a regular tidal wave, for there in the sand was an Oyster-catcher's tracks. Not one or two little casual foot marks, leading nowhere in particular, but a regular little pathway and at the end of it, just as I expected, two eggs. Now it was so near sunset that I felt sure the birds would soon be back; so with murder in my heart I hid in a tussock of grass and cocked both barrels. As soon as I was fairly hidden and bent upon a special object it seemed as if all sorts of nice birds came trooping about. Royal Terns and Laughing Gulls flew low over the beach I had just left. The Sea-side Finches sang sweetly in the grass all about me; and a flock of Piping Plovers bathed and played in a little pool within easy shot.

At last my Oyster-catchers came along. They came prancing up from the beach, and when within sight of the nest stopped and held a pow-wow. Possibly, I thought, they see me, so I squatted clear out of sight for a minute or two and when I raised my head again they were both at the nest.

For an instant I hesitated but I might destroy the eggs, and while I was waiting one flew off to a distance of about a hundred yards. After looking carefully about for a few minutes, he gave a call and his mate rose from her nest and joined him. They seemed to be making a lot of fuss out there, kicking up the sand, squatting down and cackling like mad. In a few minutes though they seemed to get over this excitement and one bird came flying back and settled on the eggs. Now she began to act strangely, wiggling round and squatting down again and I began to think she was going to lay another egg, when off she went and joined her mate, who welcomed her coming with the most extravagant cries and gestures. But she sat down quite still and demure. I was about to rise and look for my third egg when I saw her coming back. Again she went through the same operation and her second welcome was if possible more exuberent than the first. Then all was quiet; one bird sat on the sand and the other stood silently by her, and though I waited some time longer they showed no sign of returning again to their eggs and I could only conclude that they had seen me watching them and would not come back until I went away. So I arose from my uncomfortable position and went to pick up the eggs, when to my surprise the little hollow in the sand was empty. While I was watching the curious antics of the female she had lifted the eggs between her legs and carried them off. So without giving time for her to repeat the offence I hurried to her new quarters and secured them successfully.

On preparing the specimens they proved to be slightly incubated and were no doubt a full set. The Oyster-catcher seems to deposit two as often as three eggs; at least that is my experience in this locality.

Nesting of the Great Blue Heron.

BY HARRY R. TAYLOR, ALAMEDA, CAL.

Often while watching a stately Great Blue Heron (*Ardea herodias*), flapping its course over one of the salt marshes adjacent to San Francisco Bay, I have wondered in what part of Santa Clara Valley their nesting-place was situated. On hearing this year, through a friend, that there were a lot of "big Blue Cranes" nesting within ten miles of San Jose, I set out with a gentleman on May 5th, 1887, to view for the first time the home of the largest of the herons.

After travelling some miles on the wrong road, and being directed and misdirected several times by the unassuming countrymen, we arrived at last in sight of the nests. After tying our horse to a fence we started towards the objects of our search through a field of grain, and luckily for us, the owner of the field failed to put in an appearance.

The nests were in the tops of three tall sycamore trees, and appeared at a distance very much like the bunches of mistletoe often seen in oak trees. As we approached nearer the nests one of us sighted the first bird and cried "there's a heron, see him!" and just at that thrilling moment stepped into a hole in the ground, and was thrown violently forward and lost to sight in the waving grain.

When within one hundred yards of the sycamore trees, about thirty herons flew from their nests and circled around in the air, uttering dismal croakings as though they felt very unwilling to give up possession of their homes. Finding that without climbers it would be impossible to ascend to the nests we contented ourselves, for the time being, with a sight of them and a view of their long-legged owners.

There were about thirty-five nests in all, built mostly in three sycamore trees which were in a field of grain and within a half-mile of a farm house. The heronry was about two miles from a salt marsh and not near any swamp as is, I believe, usually the case on the eastern coast. The nests were of different sizes, some being very large and built of sticks, on the highest branches of the trees. In one tree I counted twenty-two nests. Although there was an immense grove of live oaks near by, the herons had built no nests in them, seeming to prefer the tops of the lofty sycamores, because of their being more inaccessible. I am informed that the Great Blue Herons build in the tops of tall trees in some of the canyons of the mountains near this valley.

The heronry we visited has been occupied by the birds every year for many years. As we saw some nests only partly constructed, it is probable that the adult population of the colony has considerably increased since last year.

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Dr. Wm. DeForrest Northrup arrived in New York from Central America, just as we go to press. He was successful in his explorations beyond the expectations of his friends.

Mr. John C. Cahoon of Taunton, Mass., returned July 13th from an extended trip in Arizona and Mexico. Mr. Cahoon spent six months in that locality and secured some very desirable specimens. He went in the interests of Mr. Wm. Brewster, Cambridge, Mass.

Mr. F. W. Andros, recently paid a visit to the Island of Muskeget. Although his time was very limited, Mr. Andros very thoroughly noted the abundance and species of the Tern which inhabit the island. He also regrets to state that he obtained evidence of the wholesale gathering of their eggs, a proceeding which it was hoped had been stopped by the recent efforts of the Humane Society.

Anent Hawking.

BY WALTER HOXIE, FROGMORE, S. C.

My early interest in birds was evinced principally in the direction of pets. I now recall with a very proper sense of their lameness, the many lies as to accidents which I boldly fabricated to my fond mother, the better to account for the possession of sundry young crows, owls, blackbirds and other callow little wretches, and at this late day I now publicly confess I stole from their natural protectors. Most of them succumbed to infantile diseases—all but the crows. They refused all inducements to die, and when arrived at years of discretion learned to talk like a Christian; excepting only a few, who learned to swear in a most unchristian-like way. It was such a shocking example that I quit the habit entirely myself, and am to this day as sober of speech as a Quaker.

But I'm wandering I see; I alluded to pets in the outset, and was about to say that my first pet in the Sunny South was a Sparrow Hawk. He captured a chicken in the yard and the plucky old hen captured him and would have speedily sent him over to the silent majority had I not come to the rescue. I had "Stonheng's Sports of England" in the house at the time and straightway proceeded to train my pet according to the rules therein laid down for the "Gentle Art of Hawking." I made "jesses" and a "hood," neither of which would he wear with the smallest show of equanimity. He would play as long as his legs were tied and when hooded made more fuss than a cat with her head in a paper bag. But coming to the whistle and the wave of a yellow silk handkerchief he learned in almost two weeks. I whistled and shook the handkerchief when I fed him, then let him get hungry and did the same. On the third trial he manifested his knowledge of the making of sound and sign, both together and separately. In a month's time I could trust him out doors, and I began to practise him at small birds tossed out of my hand, giving vent to a peculiar screech at the same time. (While writing these lines I discover that I am now entirely unable to make the sound; "old age creeps on apace"). Seeing the birds come out of a bag he made no objection to going into it himself, and soon took the habit of passing most of his leisure time there. This habit did not conduce to the beauty or cleanliness of his plumage, but he was a knowing little fellow, and full as much company for me as a horse or a dog is now.

Well, he met his fate at last and died like a true hearted soldier. One afternoon when he was very hungry I loosed him at a Snowy Heron that rose quite near as we came suddenly round a point of bushes. Gallantly he answered to the halloo. The heron was quickly overtaken, and as he wheeled and twisted about over the green marsh to elude his fierce assailant, white feathers began to drift upon the breeze. He rose and Grip rose too. At the height of a hundred yards or more he made one of those startling dives from aloft, which only the beautiful Snowy Heron can make to perfection. But in the midst of his headlong descent the reckless little hawk struck him and both fell behind some trees beyond my sight. When I found them both were dead. Grip held one wing of the heron and his talons were planted in the side. But he himself was impaled upon the heron's bill.

Well, I cried, yes I did—I own it and so would have you. I took them home and mounted them in the position they died in. Spent a week on the job, and it made a fine "piece," but I could'nt enjoy it myself so I gave it away before it was fairly dry.

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Nesting of the Virginia Rail in New Hampshire.

BY S. ALBERT SHAW.

During the latter part of the summer of 1886 a boy brought me an addled egg which he found in an old nest in a swampy pasture and which I could not satisfactorily identify, so I decided to make a search for the nest next season, hoping the birds would return there to breed again.

It was on the 13th of May last that I visited the above-mentioned pasture, which is boggy and very wet, the open part being covered with hassocks and a dense growth of rushes and coarse grass, the other portion with a thick growth of alders, white birches and scattering young pines, and through which flows a sluggish brook. The ground is traversed by cow-paths running in every direction, the intervening spaces being covered with a rank growth of skunk cabbage.

It was while threading my way carefully through the above thicket that I had a fine opportunity of witnessing the movements of a bird I had never seen alive before, a Virginia Rail.

I remained perfectly quiet and he was soon running about within a few feet of me, and the thought came to me that from the examination of a dead specimen one would never suspect it capable of such nimble and graceful movements as I had the pleasure of witnessing. If I stirred he would pause and turn his bright little eyes towards me for an instant, and then, as if reassured, would continue his search for food as unconcernedly as before. Saw him catch several flies in a dexterous manner and also probe the mud with his long red bill in a rapid manner. As I moved away he ran along only a few steps in advance for quite a distance when I suddenly lost sight of him, but shall always remember the meeting with pleasure.

Thinking from its actions a nest might be not far away, I spent quite a while looking for it but in vain.

On May 21st I made another effort to find the nest and was successful after a long search. It was in the midst of a large patch of cat tails, eight inches from the ground, and was composed of dead grass, with a few leaves of the cat tails on top, which was perfectly flat, the whole being supported by several last year's stalks that surrounded the nest, almost completely hiding it from view. It contained one egg, with no room to spare.

I flushed the bird from the nest and as she flew rather slowly and awkwardly, with legs hanging down at full length, I had a good chance to identify her before she dropped into a thicket a few rods away.

Visited it again on the 28th, and found eight eggs, and that the surface of the nest had been doubled by the addition of more leaves of the cat tails and also slightly hollowed.

The eggs are of a dirty white, covered with lilac spots which are larger and more numerous on the larger end. The measurements average 1.20x.89.

I have met with only one other Virginia Rail which was found dead under the telegraph wire. Still from their dislike to take wing they are not often seen and may be more common than I am aware of.

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The Sense of Smell in the Black Vulture.

BY WALTER HOXIE.

On the 27th of April, 1887, I captured a young Black Vulture which could not have been at that time more than two days old. When he had attained the age of three weeks I submitted him to a course of experiments in order to ascertain whether or no he possessed the sense of smell. The results up to the present time, May 29th, 1887, are all on the negative side of the question.

On May 20th he had been purposely kept two days without food but was liberally supplied with water. He was confined in a box with a slatted top one foot square and two feet five inches long. Upon showing myself near the box he displayed great excitement and eagerness, pushing his head between the slats and grasping every object placed within his reach with hungry eagerness. After being duped several times with chips, oyster shells and bits of stick he became sulky at so many disappointments and refused to grasp anything offered to him. While in this state of mind a putrid crab was slowly brought by an assistant from a distance of seventy-one yards to windward of his box and placed on the lee side at first. The same system of teasing was still carried on and the crab passed round to windward. Still he showed no sign that he was aware of any food being at hand. Then I cautiously raised both hands above the edge of the box, the one holding an oyster shell and the other the crab. Before I could drop the latter he snatched it from my grasp and proceeded to regale himself with every sign of extreme satisfaction. After disposing of this tidbit he was heartily fed. No more was given him till the 23d. On the morning of that day the skinned and partially disembowelled bodies of three small herons were laid on a work bench one foot and ten inches above the top of his box. These bodies were not very odoriferous at this time, but in a few hours they became extremely so. I did not approach the box or tease him on this occasion, but listened from the room where I was at work for any sounds of excitement. Late in the afternoon his unmistakable voice was heard, and he was found reaching upward with eagerness and plainly indicating that he was aware that there was food upon the bench. Almost at the same instant a drop of blood fell upon his box. He scraped eagerly at it with his bill and then looked upward again for more. I now moved the bodies a few inches to one side and wiped up the blood which had trickled down through a crack. As long as I was in sight he kept up his noise and antics, but when I went away he was still again. In about an hour's time I fed him, and he has been bountifully supplied ever since. This afternoon a dish containing the still warm entrails of two fowls was covered and placed in his box. He showed no curiosity as to the contents until the cover was removed. I thought he could not be at all hungry but judging from the speed with which the viands disappeared they did not come at all amiss.

My conviction is as before expressed that the Black Vulture is not capable of detecting its food by the scent. I shall not consign this lovely pet to his native wilds for some time to come and if I should detect any symptoms, as he grows older, of a development of the sense of smell, I shall not fail to make the fact known through the medium of the O. AND O.

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The Spring and Fall Plumage of Our Shore Birds.

BY F. H. CARPENTER.

In glancing over the numerous lists of bird skins in collections, I have often remarked the error into which many ornithologists have fallen in dividing the conditions of plumage of birds, especially those of order *Limicolæ*. That such a distinction of plumage should receive due attention and classification is without dispute, but when the division is based upon the change in seasons, rather than age of the bird, some exceptions should be cited. Taking, for instance, the Black-bellied Plover (*Charadrius squatarola*), a well known species, which has come under my observation frequently. I have shot as full plumaged birds of this species in September as in May. In their large flocks on Monomoy I have seen many black individuals among the juvenile gray specimens. Also with the Sanderling (*Calidris arenaria*), the same remarks will apply, save for the fact that the adults are noted in separate flocks, and earlier in the season than the young.

My own observations are corroborated by Mr. John C. Cahoon, who probably has had more recent experience than any other person with our New England shore birds. In fact Mr. Cahoon first drew my attention to this question, and I should have hesitated before I publicly expressed my assertions had not such evidence presented by that gentleman's notes as to settle any debatable point beyond dispute. I regret that I have not at hand a complete list of such species as retain their spring plumage during the autumn, but in absence of such data I find it difficult to exclude any variety, as I have notes collected from various authentic sources bearing upon every New England species of shore birds, but in some cases the information is so meagre, as to doubt whether it is a governing rule to retain the breeding plumage, or rather individual exceptions.

I have shot in the fall both Woodcock and Grouse that appeared to be much brighter in plumage and "better" birds than those seen in spring, and can find no sportsman of any field experience who does not relate the same observation.

That the difference in plumage should be attributed to age and not season seems to be a correct view, and other evidence either pro or con should be offered upon this subject, to which the foregoing statements are but a prologue.

Migratory Movements of Herons.

BY WALTER HOXIE, FROGMORE, S. C.

Some migratory movements of Herons have come under my notice which are, perhaps, worth reading.

The Black-crowned Night Heron arrives here the last of March, and the bulk leave about the last of November. But throughout the winter a few of the young remain. These very likely were too fat and lazy to join the southern exodus of their fellows and probably pass the ordeal of our not very trying winters in making good resolutions to be carried out next fall. His white-headed cousin I have never caught out during the inclement season. He seems while here to depend entirely upon crawfish for his sustenance and the whole family doubtless go to where they can get all they need.

The Little Blue Heron breeds but sparsely on these islands, but about the first or second week in July there is a heavy influx of the young in their white plumage who hang about till frost. Throughout August they certainly are ten to one the commonest heron here. This is plainly a movement towards the coast of the young of the year, and from numerous correspondents I gather the fact that it is likewise a spreading movement both up and down the coast. I cannot account for it satisfactorily.

The Great Blue Heron is like the poor. He is always with us. Not that he may strictly be called a resident bird, but we are within the overlapping limits of his migration range.

The Great White Heron I have never detected breeding here, but considerable numbers of the young are found about the time of the visitation of the Little Blues, and generally remain much longer. In mild winters they stay through till spring and frequent the salt marshes entirely. A very few adults visit us in the spring. I am inclined to think that their breeding habitat is a little further inland.

The Snowy Heron breeds abundantly, arriving about the 24th of March with remarkable regularity. By the middle of May the nests are full and by the end of June all, young and old, have departed. It is very seldom that one can be found until the first of October when they are back in full force again for a few weeks. Where the intervening time is passed I cannot tell.

The Louisiana Heron follows pretty much the same course as the Snowy, but is not quite so conspicuously absent in summer. A few young can almost always be found.

The Green Heron and the Least Bittern show nothing remarkable in their movements. They come and go with tolerable regularity and do not seem to go through any disappearance scene.

The Greater Bittern turns up at all sorts of odd times and in all kinds of unlikely corners. I have scattering records coming nearly every month in the year. He must be a confirmed tramp.

Nesting of the Yellow-bellied Flycatcher.

BY FREDERICK B. SPAULDING, LANCASTER, N. H.

In describing the yellow-bellied Flycatcher, (*Empidonax flaviventris*) in *N. E. Bird Life*, Dr. Coues says, "Thus far it is only known to breed in Maine." I wish to record it as breeding in New Hampshire also. While collecting on June 14th, 1886, I found a nest of this species containing five fresh eggs. The nest was sunk about four inches in the side of a green mossy knoll, near a low, swampy piece of woods, in Lancaster.

The nest was composed of soft green moss and dry grass and was lined with fine dry grass and very fine rootlets. It was quite bulky but very loosely constructed, and fell apart as soon as removed from the cavity, although by careful handling I managed to save about half of it.

The eggs are beautiful, especially to the eyes of an oölogist. They are delicate creamy white, three of them marked with quite large blotches of reddish-brown about the larger end, while the other two are marked with minute spots of the same color also about the larger end. The eggs closely resemble those of *E. trailii*, but are a trifle smaller, and rather less pointed in shape.

I am positive about the identity, for I caught the bird on the nest, and identified it by means of Coue's *Key*, with whose description it exactly coincided. Its note was a soft "*pea*" frequently repeated.

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The Number of Eggs in a Set.

BY WALTER HOXIE, FROGMORE, S. C.

I am glad to see this subject discussed in the O. AND O., and think that the more light we have thrown on it the better.

Now I am quite sure that the number of eggs laid by some species varies greatly with the habitat of the bird. Take the Red-winged Blackbird (*Agelius phœnicens*) as an instance. Three, and nearly as often two, eggs comprise the full nest complement here, while about the middle range of its habitat, four or five are laid.

Then again an individual peculiarity is sometimes noticed. I remember a Robin (*Merula migratoria*) up in Massachusetts that raised three broods a year for many seasons in the same orchard. Three eggs were all she ever laid, and the third brood was only two. At last came the inevitable cat, or she might have been going on in the same course until today.

The rule seems to me to be that the more robust the bird the larger the clutch. When the food supply is abundant and regular we naturally look for the highest number of eggs in a set, and *vice versa*.

This, I think, is a more plausable explanation of the fact than another, which one of my friends suggests. He surmises that large clutches are laid for the purpose of keeping up the standard number of a species in cases where they are exposed to extreme vicissitudes of some sort. He instances some species whose nests are made on the ground, and whose eggs are peculiarly exposed to depredation. It seems to me that this is merely a case of the survival of the fittest, and that if, in past ages, an allied species had laid small clutches, they have now become extinct.

This brings me back to my first point, for I am sure that the Southern Rails lay fewer eggs than the same species do when breeding in the middle and northern states.

[This subject is one of the greatest interest that is presented in the study of ornithology or oölogy. More mistakes have been made by writers in the statement of the number of eggs laid by certain species than in any other branch. In fact it is only of late years that close attention seems to have been given to the whole subject, and the results attained thus far go to show that we cannot place much reliance on many statements that have appeared in works which are in other respects standard authority.

It appears to be quite certain that the same species will lay a different number of eggs in different localities; and it is also a fact that in different seasons in the same localities, the same birds will vary in the number of eggs laid. Thus the following abundant species were observed in Pennsylvania sitting on well-incubated sets of three eggs, in a great many instances, during the season of 1886: Robin (*Merula migratoria*); Wood Thrush (*Hylocichla mustelina*); Catbird (*Galeoscoptes carolinensis*); and Chipping Sparrow (*Spizella domestica*). It is well known that the normal number of eggs laid by these species is four, and observations conducted during 1887, in the same localities, showed that almost all their nests contained that number. Why then was it different in 1886?

It has been the experience of the present writer, that the number of eggs laid by birds belonging to the family of *Raptores* has been subject to exaggeration. Almost invariably their number has been stated to be greater than really appears to be the case.

It is to be hoped that the readers of the O. AND O. will freely give their experiences on this subject.—J. P. N.]

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Rev. C. M. Jones of Eastford, Conn., secured August 2d a pure albino robin, probably a bird of this present year.

A Favorite Nest.

BY HON. JOHN N. CLARK, SAYBROOK, CONN.

Within the range of one of my annual spring circuits was a large branching chestnut, a giant among giants. In its lofty summit, at a triple crotch, a Cooper's Hawk (*Accipiter cooperi*) erected her domicile in the year 1884. It attracted very little attention from me, except the observation that it was an easy tree to climb, though exceedingly high. The numerous branches extended in all directions quite from the ground. As I passed the spot in the spring of 1885, I thought I perceived the glaring eyes and erect horns of a *Bubo*, and under investigation the old owl quietly departed, leaving to my possession a nice set of two Great Horned Owl's eggs.

With this success in my memory, anticipation led me promptly to the spot in 1886 and, quite as much to my surprise, as I approached the nest an old Red-tailed Hawk (*Buteo borealis*) launched herself from it with a wild scream of defiance. On the 7th of April I secured therefrom the handsomest set of *Buteo borealis* eggs (one of three) that I ever saw. I could perceive but little change in the nest except perhaps a few clutches of fibrous bark added to the mass.

As the season of 1887 approached, one of the first attractions was, of course, that old nest, but to my disappointment I found nothing perceptible from below, and yet there was a freshness about the nest which led me there again. A feather was waving from one of the twigs on the nest, and a sharp rap on the tree made a barred owl (*Strix nebulosa*) raise herself to the edge of it. She stared at me with her great black eyes, and flew to a tree near by, whence after glaring at me a moment, she screamed out, "Who-who-who-o-o-o-o-o,"—the third syllable long drawn out and in a high pitch for an owl. This was a revelation and a surprise indeed. I have taken a number of sets of Barred Owl's eggs, but always before from a hollow tree. Only a few rods away was a large oak with a splendid hollow in its trunk about eighteen feet up, whence I have taken at least four sets in as many years, and now old *Strix* plays the trick of renting a hawk's nest eighty feet up in the open air. Well she gave me a fine set on the 22d of April, somewhat incubated. I could readily perceive why she was invisible from below. She had worked the old material of the nest into walls five or six inches high, thus making a nest so deep she could settle down into it all out of sight. Is this after the usual manner of the *Falconidæ* and *Bubonidæ?* I have not had extended opportunities of observation, but in none have I seen any except Cooper's Hawks building themselves a new nest.

Nesting of the White-tailed Kite.

BY H. R. TAYLOR, ALAMEDA, CAL.

While out on a ramble near San Jose early in May, 1887, I had the good fortune to find a nest of the White-tailed Kite (*Elanus glaucus*). It was in the very topmost branches of a live-oak, thirty feet above ground, and contained four beautiful eggs which were but slightly incubated. Several writers have asserted that this kite always builds a new nest each year, but in this instance the nest was unquestionably an old one which the birds had repaired by the addition of a few feathers and sticks. The Kite had risen from the nest as I approached, and flown majestically away over the trees and out of sight, but now returned and perched on an oak near by, where it sat pluming its feathers with apparent indifference while I secured the eggs. After packing the set carefully away I hid myself under some trees where, unobserved, I might watch the movements of the bird. As soon as I was out of sight it flew from its perch, and after circling several times around the tree containing its nest, alighted on a limb near it. It cautiously turned its head in all directions, seemingly to satisfy itself that no enemy was near, and then gracefully settled on the empty nest. I did not again see it move although I remained some time in the vicinity.

The Great Northern Shrike and Its Prey.

BY C. C. MAXFIELD.

In the July number of the O. AND O. I see a short article by my friend, Benj. F. Hess, and see myself quoted as finding sparrows on thorns, etc.

Instead of having found them hung in forks, I have, on several occasions, seen the Great Northern Shrike kill English sparrows and hang them in the forks of small bushes by the Oswego river. The Shrike at Phoenix, N. Y., is a bird very hard to find in summer, although occasionally seen, but in winter are rather common, and I can say from observation that their food seems to be, principally, English sparrows. I have a specimen of the shrike mounted in the position in which he was when shot. I had followed him for some distance from our farm barn, where I had seen him kill a sparrow, and he had difficult work in flying away with the sparrow. I came up with him after a short time and found him sitting on a branch a short distance from a forked limb in which was the sparrow, hung by the neck. I have always, until this time, seen the shrikes hang their prey in a fork and fly away, but this one did not offer to do so. It was very cold weather and I thought probably hunger had something to do with it. I have seen as many as fifteen or twenty sparrows killed in our farm barn yard, in course of a winter.

I think the shrikes should be protected on this account, if on no other. As spring approaches, the shrikes take to killing the field mice, and again are useful. Taking all together they deserve a much different treatment than they get.

I would like to hear the experience of brother observers on this subject.

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A Hummingbird's Shower-bath.

BY H. R. TAYLOR, ALAMEDA, CAL.

On July 21st I saw a female Anna Hummingbird taking a shower bath on my neighbor's lawn. It settled on the grass, where the water from the sprinkler splashed over it like heavily falling rain, but the little thing spread its tiny wings and seemed to enjoy it immensely, until, not fancying such close observation, it uttered an odd little angry sputtering noise and flew away to the low fence, alighting on a picket, another peculiar action, for a hummer, I thought,

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A Monument to Audobon.

A proposition has been made, and is in a fair way to take shape the coming fall, to erect a monument to the great American naturalist, John James Audobon, in Trinity Church Cemetery, New York. We are slow to erect monuments to those who have benefitted the human race by a life devoted to science. But to the general who destroys human life in the most reckless manner, we are prompt to build a monument in material that will endure forever.

JOS. M. WADE.

Correction.

The syllables used in July O. AND O. to indicate the note of the Clay-colored Sparrow should have read, *Peet*, *Peet*, not "feet, feet," as printed.

Further investigation shows the species to build more frequently in bushes than I had supposed.

J. W. PRESTON.

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Recent Publications.

ORNITHOLOGICAL OBSERVATIONS IN SAN DIEGO COUNTY. Extract from *Bulletin of California Academy of Sciences.* This is a list of species observed by Mr. W. O. Emerson of Hayward's, Cal., during the first three months of 1884, which time he spent in the Volcano Mountains and in the Poway valley. The author gives a list of forty-six species seen or taken in the mountains, and sixty-three in the valley. The brief remarks appended to each species are in the author's usual style, which shows a keen observation.

REPORTS OF THE MICROSCOPICAL SOCIETY OF WEST CHESTER, PENN. Dr. B. H. Warren, the State Ornithologist of the Board of Agriculture, to whom we are iedebted for a copy of the above, has done good work in his accurate and exhaustive data, given in regard to the food of our rapacious birds, in the report of the Microscopical Society. Numerous testimonies are given from prominent ornithologists, all verifying Dr. Warren's statements and endorsing the idea of giving protection to hawks and owls.

BULLETIN OF THE AMERICAN MUSEUM OF NATURAL HISTORY, VOL. II., NO. 1, contains two articles by Mr. J. A. Allen, on *The West Indian Level*, and *Notes on Squaladont Remains from Charleston, S. C.*, illustrated by six plates.

Forest and Stream, July 7–21.
Ottawa Naturalist, July.
Scientific American, June 18—July 16.
The Auk, July.
West American Scientist.
Western Naturalist.

The new edition of Coues' *Key*, which has been advertised by its publishers, Messrs. Estes & Lauriat, as ready, is still unobtainable. When it is really ready, due notice will be given in these columns.

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AS A MONTHLY

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UNDER THE EDITORIAL MANAGEMENT OF

FREDERIC H. CARPENTER, J. PARKER NORRIS, ESQ., AND MR. F. W. ANDROS.

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VOL. XII. BOSTON, MASS., SEPTEMBER, 1887. No. 9.

A List of the Birds of Bristol County, Mass.

BY FREDERIC W. ANDROS.

Bristol County is situated in the south-eastern part of Massachusetts and has an area of 517 square miles. It is bounded on the south by Buzzards Bay and is well drained by the Taunton River and smaller streams which flow into Mt. Hope and Narragansett Bay, and it has about twenty miles of seacoast; certain localities rugged in the extreme with rocky headlands, while quiet coves and harbors are nestled here and there with low sandy beaches and quiet waters. The surface of the county is generally level though there are a few quite prominent hills, especially in the western portion of the county. Rocky Hill, the highest eminence has an observatory where observations are taken thrice daily during the spring and fall migrations. The eastern portion of the county is not so heavily wooded as the western, the latter consisting mostly of hard wood and deciduous trees and groves, and the soil is sandy, while the former is mainly large groves of pine and cedars and has a richer soil. This county is very favorably situated regarding the migrations of our birds, as it is well watered and a valley extends well up into the interior; it is also in a direct line with their passage across the water and is the first land reached in Massachusetts.

The appended list includes 202 species, and are divided up thus: Residents twenty-two; migrants sixty-five; summer residents eighty-two; winter residents twenty-nine, with four as uncertain as accidental.

It has been deemed advisable to present the list in as brief a form as possible consistant with accuracy of annotations. Many outside records have been noted but not entered in this list which represents the united observations of the different members dispersed over the county. Much credit is due, however, to Messrs. Carpenter and Cahoon for their knowledge of the shore and water birds.

Podilymbus podiceps (Linn.), Pied-billed Grebe. Migrant, common during the fall.

Urinator imber (Gunn.), Loon. Winter visitant, occasionally seen off the coast.

Urinator lumme (Gunn.), Red-throated Loon. Winter visitant, fairly common along the coast.

Cepphus grylle (Linn.), Black Guillemot. Winter visitant, not common.

Uria troile (Linn.), Murre. Rarely recorded, off our coast in winter.

Uria lomvia (Linn.), Brünnich's Murre. Winter visitant, occasionally seen off the coast.

Alca torda Linn., Razor-billed Auk. Winter visitant, rarely seen off the coast.

Alle alle (Linn.), Dovekie. Winter visitant, occasionally seen off the coast. One occurrence inland noted at Rehoboth, November 25th, 1885 (O. AND O. Vol. xi. No. 1).

Stercorarius parasiticus (Linn.), Parasitic Jaeger. Winter visitant, occurs with the following species.

Stercorarius longriandus Vieill., Long-tailed Jaeger. Winter visitant, tolerably common off the coast.

Rissa tridactyla (Linn.), Kittiwake. Winter visitant, common.

Larus marinus Linn., Great Black-backed Gull. Winter resident, rare.

Larus argentatus smithsonianus Coues., American Herring Gull. Winter visitant, common.

Larus atricilla Linn., Laughing Gull. Summer resident, fairly common.

Larus philadelphia (Ord.), Bonapartes Gull. Frequently seen in Autumn.

Sterna hirundo Linn., Common Tern. Summer resident, common. Breeds.

Sterna paradisæa Brünn., Artic Tern. Migrant. Said to breed.

Sterna dougalli Montag., Roseate Tern. Summer resident, fairly common. Breeds.

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Sterna antillarum (Less.), Least Tern. Summer resident, tolerably common. Breeds.

Hydrochelidon nigra surinamensis (Gmel.), Black Tern. Migrant, not common.

Puffinus borealis Cory., Cory's Shearwater. Mr. F. B. Webster reports some specimens sent to him from Bristol, R. I. in summer of 1886. "They were taken off the coast of this county."

Oceanodroma leucorhoa (Vieill.), Leach's Petrel. Resident, occasionally seen off the coast.

Oceanites oceanicus (Kuhl.), Wilson's Petrel. Resident, occasionally seen off the coast.

Phalacrocorax carbo (Linn.), Cormorant. Winter visitant, occasionally seen off the coast.

Phalacrocorax dilophus (Sw. and Rich.), Double-crested Cormorant. Winter visitant, occurs under the same circumstances as the foregoing species.

Lophodytes cucullatus (Linn.), Hooded Merganser. Migrant, common.

Anas boschas Linn., Mallard. Migrant, rare.

Anas obscura Gmel., Black Duck. Migrant, common. A few breed.

Anas americana (Linn.), Baldpate. Migrant, rare.

Anas carolinensis Gmel., Green-winged Teal. Migrant, rare.

Anas discors Linn., Blue-winged Teal. Migrant, fairly common.

Dafila acuta (Linn.), Pintail. Migrant, rare.

Aix sponsa (Linn.), Wood Duck. Summer resident, common. Breeds.

Aythya americana (Eyt.), Redhead. Migrant. Rare, a few instances.

Aythya vallisneria (Wils.), Canvas-back. Migrant, very rare.

Aythya marila nearctica Stejn., American Scaup Duck. Migrant, tolerably common.

Glaucionetta clangula americana (Bonap.), American Golden-eye. Winter visitant, very rare.

Charitonetta albeola (Linn.), Buffle-head. Migrant, common. Seen in winter.

Clangula hyemalis (Linn.), Old-squaw. Migrant, common. Seen in winter.

Somateria dresseri Sharpe., American Eider. Winter visitant, very rare. Observed off the coast.

Oidemia perspicillata (Linn.), Surf Scoter. Migrant, tolerably common off the coast.

Erismatura rubida (Wils.), Ruddy Duck. Migrant, rare.

Branta canadensis (Linn.), Canada Goose, Migrant, common.

Branta bernicla (Linn.), Brant. Migrant, tolerably common.

Olor columbianus (Ord.), Whistling Swan. Migrant, irregular. Mr. Elisha Slade saw a flock of five Oct. 16th, 1880, at Somerset, Mass. (Bull. Nutt. Club, vi. 1881, p. 123).

Botaurus lentiginosus (Montag.), American Bittern. Summer resident, rare. Breeds.

Botaurus exilis (Gmel.), Least Bittern. Summer resident, rare. Breeds.

Ardea herodias Linn., Great Blue Heron. Seen in summer, rare.

Ardea candidissima Gmel., Snowy Heron.

Ardea virescens Linn., Green Heron. Summer resident, common. Breeds.

Nycticorax nycticorax nævius (Bodd.), Black-crowned Night Heron. Summer resident, common. Breeds.

Rallus virginianus Linn., Virginia Rail. Summer resident, common. Breeds.

Porzana carolina (Linn.), Sora. Summer resident, common. Breeds.

Fulica americana Gmel., American Coot. Migrant. A large flock seen in Lee's River, Swansea in November, 1884.

Phalaropus lobatus (Linn.), Northern Phalarope. Not common off coast.

Phalaropus tricolor (Vieill.), Wilson's Phalarope. More common than preceding variety.

Philohela minor (Gmel.), American Woodcock. Summer resident, tolerably common. Breeds.

Gallinago delicata (Ord.), Wilson's Snipe. Migrant, not common.

Macrorhamphus griseus (Gmel.), Dowitcher. Migrant, tolerably common.

Tringa canutus Linn., Knot. Migrant, fairly common.

Tringa maculata Vieill., Pectoral Sandpiper. Migrant, common.

Tringa minutilla Vieill., Least Sandpiper. Migrant, common.

Tringa alpina pacifica (Coues.), Red-backed Sandpiper. Migrant, tolerably common in spring and fall. A few seen in summer.

Ereunetes pusillus (Linn.), Semipalmated Sandpiper, Migrant, tolerably common.

Calidris arenaria (Linn.), Sanderling. Migrant, fairly common.

Limosa hæmastica (Linn.) Hudsonian Godwit. Migrant, rare. Exceptional cases noted.

Totanus melanoleucus (Gmel.), Greater Yellow-legs. Migrant, common.

Totanus flavipes (Gmel.), Yellow-legs. Migrant, common in the fall.

Totanus solitarius (Wils.), Solitary Sandpiper. Migrant, rare.

Symphemia semipalmata (Gmel.), Willet. Migrant, not common on the coast.

Bartramia longicauda (Bechst.), Bartramian Sandpiper. Migrant, rare.

Actitis macularia (Linn.), Spotted Sandpiper. Summer resident, common. Breeds.

Numenius borealis (Forst.), Eskimo Curlew. Migrant, rare.

Charadrius squatarola (Linn.), Black-bellied Plover. Migrant, fairly common in spring and fall on the coast.

Charadrius dominicus Müll., American Golden Plover. Migrant. Occurs under the same circumstances as the foregoing though not quite as common.

Ægialitis vocifera (Linn.), Killdeer. Migrant, not common. Formerly Bred.

Ægialitis semipalmata Bonap., Semipalmated Plover. Migrant, not common in spring or fall

Ægialitis meloda (Ord.), Piping Plover. Summer resident, common. Breeds.

Arenaria interpres (Linn.), Turnstone. Migrant, tolerably common in spring and fall along the coast.

Colinus virginianus (Linn.), Bob-white. Resident, common. Breeds.

Bonasa umbellus (Linn.), Ruffed Grouse. Resident, common. Breeds.

Ectopistes migratorius (Linn.), Passenger Pigeon. Migrant, rare.

Zenaidura macroura (Linn.), Mourning Dove. Summer resident, tolerably common. Breeds.

Circus hudsonius (Linn.), Marsh Hawk. Summer resident, common. Breeds.

Accipiter velox (Wils.), Sharp-shinned Hawk. Resident, common. Breeds.

Accipiter cooperi (Bonap.), Cooper's Hawk. Summer resident, common. Breeds.

Accipiter atricapillus (Wils.), American Goshawk. Fall and winter visitant, rare.

Buteo borealis (Gmel.), Red-tailed Hawk. Resident, rare. Breeds.

Buteo lineatus (Gmel.), Red-shouldered Hawk. Resident, common. Breeds.

Buteo latissimus (Wils.), Broad-winged Hawk. Summer resident, very rare. Breeds.

Archibuteo lagopus sancti-johannis (Gmel.), American Rough-legged Hawk. A migrant of rare occurrence.

Haliæetus leucocephalus (Linn.), Bald Eagle. Summer resident, rare.

Falco columbarius Linn., Pigeon Hawk. Migrant, rare.

Falco sparverius Linn., American Sparrow Hawk. Summer resident, very rare. Breeds.

Pandion haliætus carolinensis (Gmel.), American Osprey. Summer resident, common. Breeds.

Asio wilsonianus (Less.), American Long-eared Owl. Resident, rare. Breeds.

Asio accipitrinus (Pall.), Short-eared Owl. Resident, rare.

Syrnium nebulosum (Forst). Barred Owl. Resident, tolerably common. Breeds.

Nyctala acadica (Gmel.), Saw-whet Owl. Winter visitant, rare.

Megascops asio (Linn.), Screech Owl. Resident, common, Breeds.

Bubo virginianus (Gmel). Great-horned Owl. Resident, rare. Breeds.

Nyctea nyctea (Linn.), Snowy Owl. Winter visitant, very rare.

Coccyzus americanus (Linn.), Yellow-billed Cuckoo. Summer resident, rare. Breeds.

Coccyzus erythrophthalmus (Wils.), Black-billed Cuckoo. Summer resident, common. Breeds.

Ceryle alcyon (Linn.), Belted Kingfisher. Summer resident, common. Breeds.

Dryobates villosus (Linn.), Hairy Woodpecker. Resident, rare in summer. Breeds.

Dryobates pubescens (Linn.), Downy Woodpecker. Resident, common. Breeds.

Melanerpes erythrocephalus (Linn.), Red-headed Woodpecker. Transient.

Colaptes auratus (Linn.) Flicker. Resident, common. Breeds.

Antrostomus vociferus (Wils.), Whip-poor-will. Summer resident, common. Breeds.

Chordeiles virginianus (Gmel.), Nighthawk. Summer resident, common. Breeds.

Chaetura pelagica (Linn.), Chimney Swift. Summer resident, common. Breeds.

Trochilus colubris (Linn.), Ruby-throated Hummingbird. Summer resident, common. Breeds.

Tyrannus tyrannus (Linn.), Kingbird. Summer resident, common. Breeds.

Myiarchus crinitus (Linn.), Crested Flycatcher. Summer resident, rare. Breeds.

Sayornis phœbe (Lath.), Phœbe. Summer resident, common. Breeds.

Contopus virens (Linn.), Wood Pewee. Summer resident, common. Breeds.

Empidonax flaviventris (Baird), Yellow-bellied Flycatcher. Summer resident, rare.

Empidonax pusillus traillii (Aud.), Traill's Flycatcher. Migrant, rare.

Empidonax minimus Baird, Least Flycatcher. Summer resident, common. Breeds.

Octocoris alpestris (Linn.), Horned Lark. Winter visitant, common near the coast.

Cyanocitta cristata (Linn.), Blue Jay. Resident, common. Breeds.

Corvus americanus (Aud.), American Crow. Resident, common. Breeds.

Dolichonyx oryzivorus (Linn.), Bobolink. Summer resident, common. Breeds.

Molothrus ater (Bodd.), Cowbird. Summer resident, common. Breeds.

Agelaius phœniceus (Linn.), Red-winged Blackbird. Summer resident, common. Breeds

Sturnella magna (Linn.), Meadow Lark. Resident, common, summer. Breeds.

Icterus spurius (Linn.), Orchard Oriole. Summer resident, very rare. Breeds.

Icterus galbula (Linn.) Baltimore Oriole. Summer resident, common. Breeds.

Scolecophagus carolinus (Müll.), Rusty Blackbird. Migrant, rare.

Quiscalus quiscula (Linn.), Purple Grackle. Summer resident, common. Breeds.

Quiscalus quiscula æneus (Ridgw.), Bronzed Grackle. Doubtless occurs as a migrant, but difficult to distinguish from the foregoing species.

Pinicola enucleator (Linn.), Pine Grosbeak. Winter visitant, irregular in appearance.

Carpodacus purpureus (Gmel.), Purple Finch. Summer resident, common. Breeds. Occasionally seen during the open winter.

Loxia curvirostra minor (Brehm.), American Crossbill. Winter resident, irregular in appearance.

Acanthis linaria (Linn.), Red-poll. Winter visitant, irregular in appearance.

Spinus tristis (Linn.), American Goldfinch. Resident, common. Breeds.

Plectrophenax nivalis (Linn.), Snowflake. Winter visitant, irregular in appearance. More common on the coast than inland.

Calcarius lapponicus (Linn.), Lapland Longspur. Winter visitant, very rare.

Poocætes gramineus (Gmel.), Vesper Sparrow. Summer resident, common. Breeds.

Ammodramus sandwichensis savanna (Wils.), Savannah Sparrow. Summer resident, common. Breeds.

Ammodramus savannarum passerinus (Wils.), Grasshopper Sparrow. Summer resident, rare.

Ammodramus caudactus (Gmel.), Sharp-tailed Sparrow. Summer resident, rare.

Zonotrichia leucophrys (Forst.), White-crowned Sparrow. Migrant, rare.

Zonotrichia albicollis (Gmel.), White-throated Sparrow. Migrant, tolerably common.

Spizella monticola (Gmel.), Tree Sparrow. Winter visitant, common.

Spizella socialis (Wils.), Chipping Sparrow. Summer resident, common. Breeds.

Spizella pusilla (Wils.), Field Sparrow. Summer resident, common. Breeds.

Junco hyemalis (Linn.), Slate-colored Junco. Winter visitant, common.

Melospiza fasciata (Gmel.), Song Sparrow. Summer resident, common. Breeds. A few spend the winter here.

Melospiza georgiana (Lath.), Swamp Sparrow. Summer resident, not common. Breeds.

Passerella iliaca (Merr.), Fox Sparrow. Migrant, common.

Pipilo erythrophthalmus (Linn.), Towhee. Summer resident, common. Breeds.

Habia ludoviciana (Linn.), Rose-breasted Grosbeak. Summer resident, rare. Breeds.

Passerina cyanea (Linn.), Indigo Bunting. Summer resident, not common. Doubtless breeds.

Piranga erythromelas Vieill., Scarlet Tanager. Summer resident, common. Breeds.

Progne subis (Linn.), Purple Martin. Summer resident, common. Breeds.

Petrochelidon lunifrons (Say.), Cliff Swallow. Summer resident, locally common. Breeds.

Chelidon erythrogaster (Bodd.), Barn Swallow. Summer resident, common. Breeds.

Tachycineta bicolor (Vieill.), Tree Swallow. Summer resident, common. Breeds.

Clivicola riparia (Linn.), Bank Swallow. Summer resident, tolerably common. Breeds.

Ampelis cedrorum (Vieill.), Cedar Waxwing. Resident, common. Breeds.

Lanius borealis Vieill., Northern Shrike. Winter visitant, irregular in appearance.

Lanius ludovicianus Linn., Loggerhead Shrike. A specimen taken at Taunton by Mr. J. C. Cahoon, Sep. 12th, 1882.

Vireo olivacens (Linn.), Red-eyed Vireo. Summer resident, common. Breeds.

Vireo gilvus (Vieill.), Warbling Vireo. Summer resident, tolerably common. Breeds.

Vireo flavifrons Vieill., Yellow-throated Vireo. Summer resident, rare. Breeds.

Vireo solitarius (Wils.), Blue-headed Vireo. Summer resident, very rare. Breeds.

Vireo noveboracensis (Gmel.), White-eyed Vireo. Summer resident, tolerably common. Breeds.

Mniotilta varia (Linn.), Black and White Warbler. Summer resident, common. Breeds.

Helminthophila chrysoptera (Linn.), Golden-winged Warbler. Summer resident, very rare. Breeds.

Helminthophila ruficapilla (Wils.), Nashville Warbler. Migrant, common. Rarely breeds.

Compsothlypis americana (Linn.), Parula Warbler. Summer resident, common. Breeds.

Dendroica æstiva (Gmel.) Yellow Warbler. Summer resident, common. Breeds.

Dendroica coronata (Linn.), Myrtle Warbler, Migrant, common. Often seen in winter.

Dendroica maculosa (Gmel.), Magnolia Warbler. Migrant, rare.

Dendroica pensylvanica (Linn.), Chestnut-sided Warbler. Summer resident, tolerably common. Breeds.

Dendroica castanea (Wils.), Bay-breasted Warbler. Migrant, rare. Two occurrences noted.

Dendroica striata (Forst.), Black-poll Warbler. Migrant, tolerably common.

Dendroica blackburniæ (Gmel.), Blackburnian Warbler. Migrant, rare.

Dendroica virens (Gmel.), Black-throated Green Warbler. Summer resident, common. Breeds.

Dendroica vigorsii (Aud.), Pine Warbler. Migrant, tolerably common.

Dendroica palmarum hypochrysea Ridgw., Yellow Palm Warbler. Migrant, common.

Dendroica discolor (Vieill.), Prairie Warbler. Summer resident, rare. Breeds.

Seiurus aurocapillus (Linn.), Ovenbird. Summer resident, common. Breeds.

Geothlypis trichas (Linn.), Maryland Yellow-throat. Summer resident, common. Breeds.

Icteria virens (Linn.), Yellow-breasted Chat. Summer resident, very rare. Breeds.

Sylvania canadensis (Linn.), Canadian Warbler. Migrant, tolerably common.

Setophaga ruticilla (Linn.), American Redstart. Summer resident, common. Breeds.

Mimus polyglottos (Linn.), Mockingbird. Accidental visitant. One shot by Mr. J. C. Cahoon on March 26th, 1883.

Galeoscoptes carolinensis (Linn.), Catbird. Summer resident, common. Breeds.

Harporhynchus rufus (Linn.), Brown Thrasher. Summer resident, common. Breeds.

Troglodytes aëdon Vieill., House Wren. Summer resident, tolerably common. Breeds.

Troglodytes hiemalis Vieill., Winter Wren. Winter resident, rare.

Cistothorus palustris (Wils.), Long-billed Marsh Wren. Summer resident, rare. Breeds.

Certhia familiaris americana (Bonap.), Brown Creeper. Resident, common during the winter.

Sitta carolinensis (Lath.), White-breasted Nuthatch. Migrant, tolerably common.

Sitta canadensis Linn., Red-breasted Nuthatch. Migrant, rare.

Parus atricapillus Linn., Chickadee. Resident, common. Breeds.

Regulus satrapa Licht., Golden-crowned Kinglet. Winter visitant, common.

Regulus calendula Ruby-crowned Kinglet. Fall and winter visitor, rare.

Turdus mustelinus Gmel., Wood Thrush. Summer Resident, common. Breeds.

Turdus fuscescens Steph., Wilson's Thrush. Summer resident, common. Breeds.

Turdus ustulatus swainsonii (Cab.), Olive-backed Thrush. Migrant, rare.

Turdus aonalaschkæ pallasii (Cab.), Hermit Thruch. Migrant, rare.

Merula migratoria (Linn.), American Robin. Summer resident, abundant. Breeds.

Sialia sialis (Linn.), Bluebird. Summer resident, common. Breeds. Often seen during open winters.

Some Additional Notes on Swainson's Warbler.

BY T. D. PERRY, SAVANNAH, GEORGIA.

This rare Swamp Warbler, *Helinaia swainsoni*, I first mentioned in the pages of the O. AND O. for Dec. 18th, 1886, page 188, but this season I have watched them very closely and will endeavor to give to the readers my observations. This species is said to lay four eggs, to sing very loud and to always lay over or near running water. Now my observations have been somewhat different, and in the first place they do not *always* lay *over* nor *even near running water*, but on high, dry land, and further on I will show that the average of nests found on high land is equal to those found in swamps. I also hope to show that they lay four eggs very seldom and at long intervals, (that is, here in Chatham County).

My first nest of this species taken this season was found on May 7th. It contained two fresh eggs. The nest was situated in a gall bush three feet high, and on high, dry land. This tract of woods lay between the Ogeechee Canal and the Savannah River, so that one body of water was three quarters of a mile away, while the other was a mile distant, and the nearest swamp was half a mile off.

My second nest was found on May 13th and was on the edge of a swamp, which was *perfectly dry*, except a small stream that ran along on the opposite side three hundred yards away. It was placed in the top of a small cane three feet high, and contained three eggs, of which the incubation was advanced.

My third nest was found on May 15th in a palmetto two and a half feet high, near a swamp but on dry land. It contained three fresh eggs, but unfortunately I broke one while up a tree after a Wood Thrush's nest, by letting the box in which they were packed fall out of my pocket to the ground below.

My fourth nest was found on May 22nd and it was placed in some vines that ran through a gall patch two feet high, but over a pool of stagnant water. The nest contained three fresh eggs.

My fifth nest was found on May 31st and was placed in a myrtle bush three feet high, and not more than a hundred yards from where I found my first nest on May 7th. It contained three eggs (incubation slight), and here let me state that Mr. George Noble found a nest in this same piece of woods on the same day that I found my first nest (May 7th), but at that time it was empty. On May 11th, however, when revisited it contained four eggs. Now this nest was in the same piece of woods far from water and not thirty yards away from the nest where I had taken my first set of two eggs on May 7th. There at that short distance, was an empty nest of the same species, and I shall always believe the birds I took the set of two eggs from laid their third egg in that empty nest and made it a set of four.

My sixth nest was found on June 6th and was in a large swamp full of water. The nest was placed in the top of canes four feet high, and contained three eggs slightly incubated.

My seventh nest was found on the same day as my sixth and was placed three feet high in a cluster of thick vines along side of a swamp. It contained three eggs, incubation advanced. I also found a nest containing three young birds on the same day and in the same swamp. The latter nest was over a ditch of running water and was three feet high in dead vines.

On June 13th I found my eighth nest. It was on high, dry land in a myrtle bush three feet high, and contained two fresh eggs.

My ninth and last nest for this season was taken on June 17th. (I was very busy about then and failed to get out any more, or I could have found others as I know that they breed in July). This nest was placed in the top of a cane six feet high and in the same swamp where I found my sixth nest, and not more than fifty feet away. It contained three fresh eggs.

All the nests were about the same in construction, being composed of dead leaves of various kinds, lined with pine needles and dead Spanish moss, which closely resembles horse hair, and the only difference that I could see is some nests were rather more bulky than others. One striking peculiarity that I have observed is that they never breed singly but in company of two pairs or more, for if you find one nest, nine times out of ten by close searching you will find another near it.

They will often build a nest and desert it. I remember having two that were very close together that were ready for eggs, but for some cause that I don't know they deserted them.

They are not at all shy, allowing you to approach very close, and therefore are easily identified.

Their song, which has been discribed as *simply wonderful*, is rather a low but sweet call of a few notes, so closely resembling that of the Hooded Warbler, *Myiodictes mitratus*, (which birds are ever near them) that I defy anyone to tell which is singing if he does not see them. Too well do I remember hearing them, as I thought, but on looking close would discover the male of the Hooded Warbler near by. Now of twenty-four nests that came under my observation this season, and four nests during 1885 and 1886, making a total of twenty-eight (I only counted those containing eggs), but one contained four eggs, and that was to my mind an accident, and I honestly believe that three is the usual number laid by them in Chatham County, Georgia. All these sets were taken, except four, this season, near Savannah, Ga. All the nests were the same and all the eggs were bluish white, without spots, leaving little doubt but that is their true color. Their size varies very much, the largest being .81 x .57 and .78 x .58, and the smallest .73 x .55 and .73 x .62.

Now while I thought I had been very fortunate my friend, George Noble, did much better. I took seven sets of three and two sets of two eggs, while he took thirteen sets of three, one of four and one of two, and most of them taken on the same days and in the same places that I took mine, making a total of twenty-four sets for 1887—rather a good showing for one season.

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The occurrence of the Short-eared Owl in Massachusetts during the summer seems to be rather unusual of late years. A flight of these birds occurs during early fall and they may be very frequently found on the marshes until cold weather sets in. An extreme advance skirmisher was shot at Quincy, August, 1887.

Notes on a Few of the Birds Observed in Brevard Co., Florida.

BY THOS. H. JACKSON, WEST CHESTER, PA.

During a visit to Florida, in March of the present year, I was so fortunate as to meet with the Florida Jay, (*Aphelocoma floridana*) in its native haunts. Between Enterprise on Lake Monroe, and Titusville on the Indian River, in Brevard County, there are extensive tracts of rather elevated ground. These, in many places, are covered by a dense growth of "scrub oaks," so thick and tangled that it is with great difficulty you can force your way through.

In such places the Florida Jay, or "Scrub Jay" as the natives call him, makes his home. My first sight of this beautiful bird was on the road near Titusville. A fine male of this species flew into a bush by the roadside within ten feet of our wagon, and remained for some time without showing any alarm at our presence. Having no gun along, I could only admire him at a distance, but next morning early I was on hand to secure my prize. After an hour's waiting a female flew from the thicket near by into an orange tree across the road, and was easily brought down at short range. I saw no more of them on that day, but the day following visited another tract of scrub oak and secured two handsome males. They were very numerous there, and within a short distance I observed at least twenty. They were quite unsuspicious, and at the discharge of a gun those that were near would move but a short distance. Evidently they had not commenced nesting and did not seem paired. I searched long and carefully for their nests, and though the birds would often remain near me, or follow me around closely, uttering their peculiar cries, I found nothing but old nests. These were quite numerous, and I supposed them to be the nest of this species of last year. But this was only conjecture. They were generally some three to six feet from the ground and composed of coarse twigs — similar to nests of the Blue Jay, (*Cyanocitta cristata*). A set of four eggs of this species taken near Enterprise, Fla., several years since, may be described as follows: Ground color of a rich light green, sprinkled with markings of a reddish brown, which in some places almost hide the ground color. They are not unlike some specimens of eggs of the Mockingbird, though differing in size and shape. They measure 1.18 x .82, 1.10 x .82, 1.08 x .81 and 1.12 x .79.

The Bald Eagle, (*Haliæetus leucocephalus*) is an abundant resident of this county, and indeed they seemed more numerous than any other of the *Raptores*, excepting the Sparrow Hawk (*T. sparverius*), which is everywhere abundant. Three nests of the Bald Eagle came under my notice while there. They were all placed in medium sized pine trees, none being over fifty feet from the ground. From two of them the young had recently flown and the third contained a full fledged Eaglet.

Procuring the assistance of a "Cracker" I had this tree cut down. The young bird did not try to save itself by flight, but fell with the tree and was killed. It was of a uniform dark brown color all over, and appeared to be larger than the parent birds. These circled around us at a safe distance, notwithstanding the prediction of our "Cracker" friend that it would be dangerous to disturb the nest.

The nest as it lay on the ground presented a mass of *debris*, large enough to fill a good-sized cart. Sticks of various sizes formed the bulk of the structure, while occasional pieces of sod, bunches of grass, bones and feathers were mixed through the mass. The top was a flat platform. The nest, as well as the young bird, was completely covered with very small, but exceedingly lively parasites. In order to have the young leave the nest by this time, March 10th, or earlier, the eggs must have been laid very early in the year, or late in the preceding, which latter I think is frequently the case in Florida. I have a set of two eggs that were taken, when fresh, near Sarasota, on the Gulf Coast, Nov. 21st, 1886.

All the nests I saw — and they must have been a small part of those existing in that section — were located within a mile of Indian River, where an abundant supply of fish is constantly found. I could not learn whether they did their own fishing or relied on the services of the Fish Hawk, (*Pandion haliaetus carolinensis*), though the latter species did not seem at all numerous and none of its nests were seen.

A single specimen of the Swallow-tailed Kite, (*Elanoides forficatus*) was the only one I saw of this beautiful bird. It was soaring high in the air, but on its evolutions would descend in a perpendicular pitch almost to the ground. It was indeed an object of great beauty, surpassing in its elegant form and graceful flight any bird I ever saw. I could not learn of their ever having been known to nest in that locality, though it would be an easy matter to overlook them in a country that offers such good chances for concealment.

Everywhere those closely related species, the Black Vulture, (*Catharista atrata*) and the Turkey Buzzard, (*Cathartes aura*) may be seen soaring together, their different modes of flight making them easily distinguishable. They doubtless nest there abundantly, and March is their breeding season, but I failed to discover nests of either species. This country affords such good hiding places for them among the scrub palmettos and dense thickets that they are rarely found.

Thinking I could get some points from an old darkey, who seemed to be running over with useful information concerning the country and its products, I asked him if he had ever found the nest of these birds, and if so where? "Oh, yes!" he said, "he had found them many a time, in the tops of the big cypress trees, and they laid five or six white eggs!"

Discovery of the Eggs of the Evening Grosbeak.

BY J. P. N.

Mr. Walter E. Bryant read a short paper before the California Academy of Sciences, on June 20th, 1887, in which he described the discovery of the first nest and eggs of the Evening Grosbeak, (*Hesperiphona vespertina*) ever found. The lucky man was Mr. E. H. Fiske, and he found the nest in Yolo County, California. Mr. Bryant says:

"The nest, containing four eggs, was taken May 10th, 1886, but incubation was so far advanced that he was unable to preserve them. In general shape, color and markings, they were similar to eggs of the Black-headed Grosbeak, but in size he thinks they were somewhat larger.

"The nest was built in a small live oak, at a height of ten feet, and was a more pretentious structure than is usually built by the Black-headed Grosbeak, being composed of small twigs supporting a thin layer of fibrous bark, and a lining of horse hair.

"It is to be hoped that Mr. Fiske will be successful in finding additional specimens from which measurements may be determined."

The present writer cordially joins in the above hope, but he cannot help deploring the fact that the eggs were not preserved in alcohol. No matter how large the embryos in eggs are, they can always be preserved in alcohol, and surely such specimens are better than none at all in the case of rare eggs like these.

Unusual Nesting Sites.

BY J. P. N.

Under the above title Mr. Walter E. Bryant read a short but very interesting paper before the California Academy of Sciences on Aug. 1st, 1887.

He described several cases where the California Quail (*Lophortyx californica*) had built their nests in trees, upon the upright ends of broken or decayed limbs, or where two large branches joined. "A few years ago," he continued, "a brood was hatched and safely conducted away from a vine-covered trellis at the front door of a popular seminary. How the parent birds managed to get the tender young down to the ground is not known."

Three instances are next mentioned where the Red-shafted Flicker (*Colaptes auratus mexicanus*) built its nest in unusual places. One was in a bridge bulkhead, a few feet above a river. "The interior of the structure was filled with gravel and large stones, amongst which the eggs were deposited. Another pair used a target butt at a much frequented range as a substitute for a stump. A third nest was in a sand bank three feet from the top, and ten feet from the creek."

A nest of the Calliope Hummingbird (*Stellula calliope*) was found "built upon a projecting splinter of a wood pile, at a height of five feet. Another was secured to a rope within an outbuilding."

Mr. Bryant then tells us of an old nest of Bullock's Oriole, (*Icterus bullocki*) which he found, which had been relined, and which contained four eggs of the Western Kingbird, (*Tyrannus verticalis*). The same species also attempted to construct a nest "upon the outer end of a windmill fan. A horizontal blade had probably been first selected, but an occasional breath of air had slightly turned the mill, bringing into place another and another, upon each of which had been deposited the first material for a nest until several nests were in different stages of construction, varying with the time that the windmill had remained quiet, while upon the roof below was strewn a quantity of debris that had fallen as the wheel revolved. Of course nothing but failure could be expected from their repeated attempts."

The present writer can recall a somewhat similar instance to that related by Mr. Bryant. In this case a pair of House Wrens (*Troglodytes ædon*) chose a box for their nesting place, that was intended to shelter a clothes-line. The rope was wound around a spindle inside the box, and the birds made their entrance into the box through the hole that was left for the line to pass out. Here they built their nest on the top of the rope. Every Monday morning the clothes-line was unwound to hang the family wash upon it, and then there would appear at the bottom of the box the rubbish that the wrens had brought in to construct their nest. For several weeks the birds persevered, constructing their nest with infinite labor, only to find it pulled to pieces each week when the rope was unwound.

Mr. Bryant also relates the finding of a nest of Say's Pewee, (*Sayornis sayi*) built in a deserted Bank Swallow's burrow, and a number of nests of Brewer's Blackbird (*Scolecophagus cyanocephalus*) built on the ground.

Nests of the Western House Wren (*Troglodytes œdon parkmani*) were found "in the skull of a horse, which had been placed in a fruit tree, in the nests of Cliff Swallows, and within an old shoe lodged in a tree."

A pair of Western Robins (*Merula migratoria propinqua*) selected a hanging basket, on the edge of a veranda, in which to build their nest; and a California Bluebird, (*Sialia mexicana*) built in the nest of a Cliff Swallow.

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A Visit to Haute Island in the Bay of Fundy, July 26th, 1887.

BY WATSON L. BISHOP, KENTVILLE, N. S.

Leaving Hall's Harbor on the south side of the Bay of Fundy at 5,30 a. m., we made our way in a small sailing vessel for the above named island, about twenty miles distant, and although we had scarcely any wind and were at a further disadvantage on account of fog, we reached the island a little before 10 o'clock, and after landing with our supplies went to the Boat House, a small building down by the shore on the north-east side of the island, had a lunch and started to explore.

Our party, five in number, consisted of one geologist, one pleasure seeker, and three amateur ornithologists, myself among the latter. I will here give a short description of the island that the reader may better understand the object of our visit.

In the first place, it is nine miles to the nearest land, Cape Chigenecto on the north; it is about one-third of a mile wide and over a mile in length. It is nearly four hundred feet high and formed of rock with a coating of productive soil on the surface. The sides are mostly perpendicular leaving but few places of access to the summit; on the east end it slopes down to the shore and is quite heavily timbered; up this is a road built by the Government for the purpose of carrying supplies to the Light House which has only been built a few years, and previous to which the island was almost a complete forest. On the extreme west end is a slope of soil, narrow at the top but widening to several rods at the bottom, reaching down to within twenty or thirty feet of the beach, thickly covered with grass and about as steep as one can well climb. A little further north the walls are perpendicular and here is probably the highest bluff on the island. This is truly a beautiful sight; the line of wall is very irregular and in some places great notches, if I may so call them, are worn in the rock, reaching back one hundred feet or more and fifty or sixty feet wide. While standing here we saw hundreds of gulls flying below near the cliff but they were far out of reach of our shotguns. The south side is almost an unbroken wall of rock, leaving no safe place to go up or down. On the north it is not so steep and some parts are covered with a growth of small trees and in many places quantities of rock have fallen down affording the Sea Pigeon, (*Uria grylle*) the desired situation for nesting.

After procuring the assistance of a young man who lives on the island, and who I may say is an expert at climbing over these steep bluffs, we proceeded to collect specimens of young birds and eggs, and although the date of our visit was late to expect much success in this, we were rewarded by getting eighteen young Herring Gulls and four adult birds, seven young Sea Pigeons, a few gull's eggs and three Sea Pigeon's eggs.

Our geologist found some very good specimens, among which were some pieces of native copper.

We made a note of different birds found on the island which were as follows:

Herring Gull, *Larus argentatus smithsonianus*; very abundant.

Black-backed Gull, *Larus marinus*; common.

Sea Pigeon, *Uria grylle*; common.

Eider Duck, *Somateria mollissima dresseri*; a few pairs breed here.

Spotted Sandpiper, *Tringoides macularius*; common.

Raven, *Corus corax*; common.

Hermit Thrush, *Turdus mustelinus*; very common.

Golden-crowned Thrush (Oven Bird), *Siurus auricapillus*; common.

Robin, *Turdus migratorius*; common.

Redstart, *Setophaga ruticilla*: a few pairs breed.

White-throated Sparrow, *Zonatrichia albicollis*; Abundant.

Song Sparrow, *Melospiza fasciata*; rare.

White-bellied Nuthatch, *Sitta carolinensis*; rare.

Golden-wing Woodpecker, *Colaptes auratus*; rare.

Hairy Woodpecker, *Picus villosus*; rare.

Cliff Swallow, *Petrochelidon lunifrons*; rare.

We saw some other small birds (sparrows and warblers) but could not get near enough to identify them. We believe that nearly if not all the above mentioned birds breed on this island. We do not claim to have given a complete list of the birds breeding here, our visit being short, as we left about noon on the following day (27th) but it cannot certainly be far astray as we were very careful and diligent in the study.

We had a very pleasant run across the bay on our return home and arrived at Hall's Harbor about 5 o'clock. The weather for the most part was fine and we returned home perfectly satisfied with our trip.

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Pileated Woodpecker, vs. Blue Jay.

BY L. O. PINDAR, HICKMAN, KY.

I will relate a little incident connected with the above bird of which I was an amused witness this morning.

I was coming back from a walk when I saw a large black bird, which I knew at once, both from the rolling flight peculiar to all woodpeckers and the large white wing patches, to be a Pileated Woodpecker. He was flying high up in the air but as I watched him he flew down and alighted on a tree not far off. I started to the tree, for although the Pileated Woodpecker is a rather common bird here in the swamps, yet I always like to watch them. As I approached he flew to another limb but this tree was already tenanted by a Red-headed Woodpecker who pecked him savagely and flew behind the tree. Red-head then gave one of those long rattling calls, which is one of the first noises we hear of a morning. A Blue Jay immediately appeared upon the scene and flew at *Hylotomus*, not I suppose out of sympathy for the Red-head but simply because a Blue Jay cannot keep out of a fight if he can get into one. As he came *Hylotomus* dodged behind the tree and as the Blue Jay passed struck at him with his great dagger like bill with such violence that missing the jay he was almost jerked from his perch and he flew to another tree. Immediately a dozen blue jays were after him, but the moment he faced around all but two took their departure in hot haste. The remaining two, however, charged him, drove him from his perch and chased him all over the large woods. At last, almost tired out, he alighted on a beech tree, taking no notice of his triumphant pursuers who were screaming at him from a limb about two feet away, he commenced to peck the rotton limb he was sitting on. At the first stroke a large piece of bark was hurled to the ground and the frightened jays flew off screaming and left him master of the field.

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My Mockingbirds.

BY WALTER HOXIE.

My young Mockingbirds are learning to fly; one has just plumped down before the door and his anxious mother is trying to incite him to a feeble flight, for she has seen cats about such places and thinks it a very unsatisfactory spot for her infant. His little brothers are balancing themselves in the top of the hedge and chirping their approval of his brave venture. Now he essays to reach the top of the fence but his little tail is not long enough yet for a servicable rudder and he misses his aim and dumps himself among the potato vines on the other side. His admirers, however, applaud this new feat as loudly as the previous one. I know that for the next day or two there will be a good deal of fluttering about this corner of my hedge. This is the second family this industrious pair have sent forth upon the world this year. The first left the paternal domicile while I was away and I only knew they had arrived at years of discretion by missing them when I came home.

The present family were hatched hungry. Young Mockingbirds as a rule possess large appetites, but these were positively of unlimited capacity. The old people were kept skurrying about from sunrise to sunset; and here let me say that their food was not confined to insects by any means. Berries entered largely into their bill of fare and as a foster parent, I myself have often regaled them with bits of cold hominy. It is a popular fallacy to speak of birds as "strictly insectivorous" and the like. Very few species will always confine themselves to one class of food. A still greater error is to divide all birds into useful and destructive. This subject is too wide and important to discuss here, but I will illustrate one point of it at least, as applied to my little friends in the hedge. They are very partial to figs; a neighbor of mine who has a fig tree styles Mockingbirds "the most destructive of all the feathered tribe." No sooner do his figs begin to ripen than the Mockingbirds flock there by the dozen. Then he loads up his old gun and bangs away at them for hours, and unfortunately he is a pretty good shot too. Some years his murders must count up into the hundreds.

I think my pets will not wander so far. Just now they seem to find plenty to eat about home and are fattening on the worms from my tomato vines.

Mockingbird is not a good name for this sweet songster. Its rendering of the notes of other birds is a skilful handling of what is often not in first hands a pleasing melody. I have in mind one who lives near the sea beach; the theme of his lay is always the cry of seabirds. The Curlew, the Oystercatcher and even the Terns find a place in his song. I once heard him in the moon light, when he treated me to a delightful pot-pourri of the whistling of Plovers and the voices of Peeps. Another who has his nest in a peach tree that overhangs a pig pen, blends with his song a most skilful adaptation of the tones of the infant porkers below him. Individuals vary considerably in their favorite art, and age seems to increase rather than diminish their powers. The present incumbent in my hedge is a young bird and his essays beyond his native carol have only extended as yet to the whistle of the Cardinal and the rollicking lay of the Nonpariel. The latter bird is one that seems never to complete his song. He always stops as if he was out of breath and could'nt get to the end. Not so my Mocker; he handles the notes of his little gaudy neighbor so deftly that there seems to be nothing lacking. There is a completeness about his imitations which far exceeds the original. Even the scolding and anxious cry of the mother bird has a certain charm about it when rightly studied. It resembles a thin slice from the discordant squall of her cousin the Catbird, but smoothed off and finished in a way to suit ner own fastidious taste.

Order Limicolæ.

Its Representation in Bristol County.

BY H. F. DEXTER, DARTMOUTH, MASS.

The extensive and varied species of this order occur in this county along the coast in considerable numbers, but owing to the restricted area and uncertain movements of the birds, little is known of them in comparison with our inland varieties.

My observations will be given briefly; nothing will be presumed, simply such occurrences as I have either personally noticed, or derived from authentic sources, and I would acknowledge the assistance of many friends for furnishing me with data and other information.

Black-bellied Plover, *Squatarola helvetica.* Seldom seen in spring; a few instances of capture April '82 and '84. In autumn they occur more frequently, though never very common. Arriving about the middle of September they remain nearly a month, September 3rd and October 11th being the two extreme dates of observation. Have never seen it on the uplands, but it has been frequently shot about the interior ponds.

Golden Plover, *Charadius plurialis.* This species occurs with us under nearly the same circumstances as the previous, being on the whole more common in fall.

Killdeer Plover, *Oxyechus vociferus.* I cannot find this species as common at present; a few occur inland and have been secured at Rehoboth (Carpenter) and Attleboro (Ried). Two instances of its breeding have occurred within the memory of the writer. Along the coast and the principal water courses of the interior, it is found in late summer and autumn in small numbers.

Semipalmated Plover *Ægialites selmipalmatus.* Fairly common in spring but does not tarry long with us at that season. It has been reported to breed with us, but the assertion is open to doubt. In the fall it occurs in large numbers, arriving by the first of August and remaining through September.

Piping Plover, *Ægialites melodus.* More often observed in spring than the foregoing. A single instance of their breeding is given, a nest found on a small island off the coast, June 1883. In the autumn it is quite abundant at times, disappearing by the first of October.

Turnstone, *Strepsilas interpres.* Frequently seen along the coast in August and September. One or two specimens have been reported as taken on one of our large inland ponds.

Northern Phalarope, *Lobipes hyperboreus.* Despite the statements of writers as to the great abundance of this species, I can record but two instances of its capture within the limits of our county, and have observed it but once.

Woodcock, *Philohela minor.* A common summer visitor and breeds commonly with us, as is attested by the broods of young we flush from under our feet in early May. Have observed this species as late as December 10th and as early as March 5th, thus showing it to be absent but a short time from our county.

Wilson's Snipe, *Gallinago media wilsoni.* Noticed only in migrations, April and in autumn. One flushed from a *salt* marsh Nov. 30th, 1883 is the latest date I have heard of their being seen.

Red-breasted Snipe, *Macrorhamphus griseus.* Quite common in autumn along the beaches, where it resorts in small flocks. Have secured specimens as late as the last week in October.

Semipalmated Sandpiper, *Ereunetes pusillus.* A few sometimes seen in spring; common in autumn in flocks with the preceding. They resort to the sandbars more commonly than any other variety I have observed.

Least Sandpiper, *Actodromas minutilla.* The only species that can be called abundant, arriving in large flocks in August and resorting to the meadows and sandbars on the coast, also occurring inland, to some extent in the vicinity of large ponds and rivers.

Pectoral Sandpiper, *Actodromas maculata.* This species occurs commonly in autumn, frequenting the "grassy salt meadows" in preference to the sands of the coast.

Red-backed Sandpiper, *Pelidna alpina americana.* Occasionally seen in autumn, but the majority pass us by in the migration, keeping well off the coast.

Robin Snipe, *Tringa canutus.* This species is as commonly observed in spring as in autumn, a number being taken May 11th, 1885, that date being the usual period of previous observations.

Sanderling, *Calidris arenaria.* Common in "flights" in autumn, frequenting the small islands and beaches of our coast.

Hudsonian Godwit, *Limosa hœmastica.* Only one occurrence of this species in this county can be noted, viz., one taken at Somerset, Taunton River, Sep. 12th, 1883.

Willet, *Symphemia semipalmata.* Commonly observed in autumn, though a few are seen in spring. Principally found on the marshes near the coast or along the shores of our principal rivers.

Greater Yellow-legs, *Totanus melanoleucus.* This species occurs in every portion of the county, being as often found about the large inland ponds as along the coast.

Yellow-legs, *Totanus flavipes.* Only one identified specimen of this species secured, but they may occur in considerable numbers in "flights," as they are common on our New England coast.

Solitary Sandpiper, *Rhyacophilus solitarius.* Again I can record but one authentic capture of this species, Sep. 3rd, 1882 (Brown). It may from its shy habits have been overlooked.

Spotted Sandpiper, *Tringoides macularius.* A common summer resident, breeding in all portions of the county, building its nest without regard to its proximity to water.

Bartramian Sandpiper, *Bartramia longicauda.* A few regularly observed in different sections of the county, but in no great numbers.

Eskimo Curlew, *Numenius borealis.* Rarely seen; two instances have been recorded, Sep. 18th, 1881 (Dexter) and Sep. 21st, 1883 (Miller).

Following the brief synopsis of their distribution as given above there are several species which may have visited our coast region and should be included were we to give a list of those *likely* to occur, and which future investigations and additional observers will doubtless record as such.

Preparing Eggs.

BY PHILO W. SMITH, JR., GREENVILLE, ILL.

My instruments are all of my own make, and consist of one or two glass blowers, two drills, one embryo hook and a needle for starting the holes. The blower is made of glass tubing from six thirty-seconds to one-fourth inch in diameter and from five to nine inches in length, which may be had of any druggist. I prefer the smaller size as it is less easily broken, and about eight inches long. Take a small alcohol lamp and bend the tube two inches from the end. I next draw the tube to a long fine and tapering point. With a very little practice this may be easily done. I have two such tubes, one with a point smaller than a pin-head for fresh eggs, and one with a larger point for eggs with embryos or large eggs. My blower is six inches in length, so that I can see the egg while blowing, which is impossible with a much shorter tube. My drills consist of iron wire filed to an even and tapering point, and then hardened. I use the common three sided file in making them; care must be taken not to make the point too long or too stubby, as the former is likely to break fragile eggs while drilling, and the latter takes too long in drilling. Two sizes are all that is needed; I use one two-twentieths and three inches long, the other four-twelfths by three inches long. The embryo hook can be made of wire, and for small eggs a pin hook will answer, but I would advise the purchase of one from some dealer, as satisfactory ones are difficult to make. Last but not least, an ordinary sharp pointed needle with a small wooden handle for starting the hole before drilling. One in their way can make instruments to suit their several requirements.

Hold the egg by the ends (never by the sides), make a hole with the needle at about the centre, then twirl the drill around till the hole is of the desired size. You must not think because your drill is large that you must make the hole the same size, for I will here state that all fresh eggs, up to the size of a Cooper's Hawk, can be blown through a hole no larger than a common sized pin's head. The hole being drilled, hold the egg over a pan of water with the hole down. I insert the blower some distance in the hole, as the air is easier forced to the top of the shell; at the same time drawing the blower gently back and forth. The contents of the egg adhers to the glass and nearly as much can be removed in this way as in blowing. After the contents are removed I rinse the egg thoroughly, blowing out all the water possible; wipe the egg off carefully and place in a tray of meal or sand, with the hole upwards until the inside has dried out. I have tried cotton, blotting paper etc. without success; I find no matter how thoroughly the egg is rinsed that if the hole is placed down either on cotton, blotting paper or anything else, you may invariably expect to find a nick in your egg upon removal. In case the egg contains an embryo, the hole must necessarily be made larger, but not nearly as large as one would generally suppose. I have removed embryos from Red-tailed Hawk's eggs that were advanced at least seven-eighths of the incubation through a hole not quite three thirty-seconds of an inch. In small eggs great care must be taken, as the more advanced the incubation the more fragile the egg shell becomes. I never take any sets in which the incubation is very far advanced unless they happen to be rare specimens. In drilling eggs never make the hole as large as the drill, as in passing the point where the drill commences to taper you will nick or crack the egg nine cases out of ten. Also remember in numbering your eggs to make as small and neat a figure as possible. I would rather have one finely prepared and numbered set than ten sets of the same species prepared with large holes, nicks or large figures which are difficult to erase from some eggs.

[The present writer has examined many sets of eggs prepared by Mr. Smith, and can bear testimony to the beautiful manner in which they were blown, and to the very small sized holes used. His article shows how few and how simple his tools are, but most of our readers will probably find it far more convenient to purchase them ready made than to attempt to make them.—J. P. N.]

A Series of Eggs of the Worm-eating Warbler.

BY SAMUEL B. LADD, WEST CHESTER, PA.

For the gratification of those who may be curious to know the measurements etc. of a large series, I take the following from my 1887 note-book, regarding the eggs of the Worm-eating Warbler, (*Helminthotherus vermivorus*):

First set taken May 24th. The nest was placed under a laurel bush, and contained five fresh eggs, which are marked over their entire surface, particularly around the larger end, with very small reddish spots. They measure respectively .64 x .51, .65 x .52, .65 x .51, .64 x .51, 62. x .51.

Second set taken same day. Nest at the foot of a beech sapling on level ground. This set numbered four eggs only. Incubation begun. Their ground color is rather a chalky white and lacks the usual creamy tint. They measure .69 x .56, .72 x .56, .70 x .56, .70 x .55.

Third set, also taken the same day, contained four eggs; nest and eggs very similar to the first set. Measurements .69 x .55, .68 x .54, .68 x .53, .66 x .54.

Fourth set, May 26th. Under a bush, on bank of small stream. Four eggs, marked over their entire surface with bold blotches of reddish-brown and lavender. They measure .67 x .55, .69 x .53, .73 x .55, .70 x .55.

Fifth set, taken same date, on steep hill-side at foot of small beech tree; five eggs, in markings very similar to the last. Measurements .72 x .54, .70 x .53, .72 x .55, .71 x .53, .72 x .55.

Sixth set, May 28th. Nest situated like the last. Six eggs, marked similarly to first set. Measurements .67 x .55, .67 x .55, .66 x .51, .64 x .53, .64 x .52, .70 x .55.

Seventh set, May 29th. Steep hill-side under small bush. Five eggs, markings similar. Measurements .68 x .52, .68 x .51, .68 x .51, .68 x .51, .67 x .50.

Eighth set, same date. At foot of chestnut sprout. Five eggs, markings similar. Measurements .71 x .53, .71 x .54, .69 x .52, .69 x .53, .74 x .53.

Ninth set, May 30th. Four eggs, marked chiefly around the larger end with reddish brown spots. Measurements, .65 x .50, .67 x .52, .66 x .52, .66 x .53.

Tenth set, May 31st. Six eggs, and one egg of the Cowbird. A glossy white, with a wreath of dark brown and lavender spots, globular. Measurements .64 x .53, .64 x .54, .66 x .63, .68 x .54, .66 x .54, .66 x .54.

Eleventh set, June 6th. Five eggs, marked similar to fourth set. Measurements .71 x .55, .69 x .55, .68 x .53, .68 x .56, .69 x .51.

Twelfth set, June 6th, placed on level ground at top of hill. Five eggs, marked with bold blotches of lavender and reddish brown over the entire surface. Measurements .71 x .57, .72 x .58, .71 x .58, .76 x .57, .77 x .55. This set is now in the cabinet of Mr. J. Parker Norris.

Thirteenth set, June 7th. Four eggs and one egg of the Cowbird; lightly marked with reddish brown mostly around the large end. Measurements .67 x .53, .68 x .52, .68 x .52, .68 x .52. This set is now in the possession of Mr. Josiah Hoopes, of West Chester, Pa.

Fourteenth set, June 8th. Position of nest not peculiar. Five eggs marked chiefly around the large end, spots larger than common, and of a darker brown. Measurements .69 x .57, .71 x .57, .71 x .56, .71 x .58, .71 x .57.

Fifteenth set, June 10th. Six eggs, similar to first set. Measurements .70 x .55, .70 x .53, .70 x .54, .68 x .54, .66 x .55, .70 x .54.

Sixteenth set, same date. Placed under a low bush on level ground. Eggs like last set. Measurements .66 x .53, .75 x .56, .74 x .56, .72 x .55, .70 x .56.

Seventeenth set (dwarfs) described in the July number of the O. AND O. These eggs are smaller than those of the Humming-bird.

Eighteenth set, July 15th. Eggs four; in their markings very similar to those of the Rock Wren, (*Salpinctes obsoletus*). Measurements .72 x .56, .73 x .55, .75 x .56, .71 x 54.

Nineteenth set, June 19th. Nest on level ground at foot of oak sprout. This I consider my handsomest set. They are heavily marked on the large end only, with blotches of a heavy rich velvety chestnut, completely obscuring their ground color. Measurements .70 x .57, .72 x .57, .70 x .58, .72 x .58, .73 x .57.

Twentieth set, June 19th. Three eggs and one of the Cowbird, marked similar to the first set. The largest eggs yet found of this bird. Measurements .80 x .55, .79 x .56, .78 x .58.

Twenty-first set, June 23rd. Nest under a mere drift of leaves with no bushes near it, in sloping woods. Five eggs, markings not peculiar. Measurements .65 x .53, .66 x .54, .65 x .53, .66 x .53, .64 x .53.

Twenty-second set, same date. Nest under a fallen dead sapling; markings not peculiar. Measurements .66 x .57, .66 x .55, .66 x .55, .66 x .55, .66 x .56.

Twenty-third set, June 25th. Nesting and markings not peculiar. Four eggs, measuring .76 x .56, .76 x .55, .74 x .57, 73 x .53.

Twenty-fourth set, June 30th. Nest at foot of beech sapling. Four eggs. Excepting the dwarf set this is the smallest, measuring .64 x .49, .64 x .50, .65 x .48, .64 x .49.

Total number of eggs (barring the dwarf set) one hundred and eight. Average size about .68 x .54. These were all collected within a radius of twelve miles from West Chester.

Nesting of the Black and White Creeper.

BY SAMUEL B. LADD, WEST CHESTER, PA.

This species (*Mniotilta varia*) which connects the *Certhiidæ* with the *Mniotiltidæ*, is in general considered quite common owing to its large breeding range, but until recently was not known to breed here, though given as one of our common migrants. I was not satisfied last year when I found them for the first time, as the birds were then feeding their young, which were at that time (June 6th, 1886) nearly ready to fly. However, I tried to be consoled in thinking they would be located for another season. But I was disappointed again in my second set which were taken May 29th, 1887, as the eggs, four in number, were so heavily incubated that but two of them could be saved.

Regarding the third and last set I took, my note-book runs as follows:—

After a long and tedious day's walk after the eggs of the Worm-eating Warbler, (*Helmintho-*

therus vermivorus) on the 8th of June, with my heels and ankles badly blistered from an ill-fitting pair of boots, I thought (to put in the time, as I did not care to come into town limping like a professional tramp before dark) that I would hunt over a hill-side, where on several previous occasions I had searched, as I thought thoroughly, without success. The Worm-eaters and Black and White Creepers were singing there almost constantly, but the entire undergrowth was a thicket of our laurel (*Kalmia latifolia*), averaging about five feet high, a very common evergreen along our Brandywine hills, especially where rocky and shaded, making it hard work to find anything. At the foot of a small oak near the top of the hill I found a beautiful nest of the Black and White Creeper containing three eggs, which I left for a larger set. Two or three days later I returned and found the female on the nest. She allowed me to get almost near enough to put my hand on her, then suddenly slid out, and after getting a few feet away began feigning lameness. If I had watched her piteous attempts to draw me away much longer I am afraid she would have succeeded. The nest was partly concealed with dead limbs and roots at the foot of a small oak tree. Its general appearance was the same as the others but more compact. It was woven in basket-shape with an inner bark which resembled that of the wild grape vine, and lined with horse-hair. The five eggs are creamy white, sprinkled over their entire surface with light brown, and forming a wreath around the larger end, of a dark brown with a few light purplish spots. They measure .69 x .52, .69 x .53, .69 x .53, .71 x .54. .71 x .54.

Notes on Some Birds of Grand Manan.

EDITED BY F. H. CARPENTER.

The members of the Bristol Ornithological Club, who visited Grand Manan, the past spring, have prepared their notes for such publication as may be considered fitting. It was the original intention to present a general treatise of the ornithology of that island, but as that subject is so well known, the island having been frequently visited by naturalists, and as the time spent was limited, attention was given but to certain species, upon which the different members of the committee will present such notes as came under their observation. Although this arrangement will not admit of any form or classification, yet it will present an extreme originality, which in this instance has been considered preferable.

Raven, *Corvus corax sinuatus.* But a few pairs breed and these found mostly about the rocky cliffs of North Head and the western coast, preferring the weird and remote regions. We were too late for their eggs but saw evidence of their nesting in a niche west of Whale Cove. On Wood's Island we were also pointed out a nesting site on an abrupt overhanging cliff which Mr. Cheney had taken a set from.

Crow, *Corvus americanus.* We found this species fairly common for so limited an area, and not so confined to secluded districts as the preceding. Like their congeners of Massachusetts they seemed to prefer sharing this life's goods with the farmer from whom they do not hesitate to purloin. Two nests examined on the island of Nantucket were placed within a few yards of each other in low firs, about eight to ten feet up. One of these nests showed signs of previous visitors from the yolks and shells scattered promisucously on the ground beneath. In composition they showed no variation from those of which I had "barked" forty foot oaks earlier in the season.

American Eider, *Somateria dresseri.* The "Sea Ducks" are fast diminishing on and about Grand Manan. They are now found in flocks of from a dozen to thirty and have become so wary from constant persecution, that we found it exceedingly difficult to approach within gunshot of a bunch. The blame for this decrease may be bestowed upon the Quoddy Indians, (The last remnant of the once powerful tribe of Passamaquoddys) who stop on the lower outlying islands during the spring and keep up a fusillade on both these and the Gulls. The fact that the celebrated down brings a good market price makes the demand so great for the Eider that driven from one shore to another by their relentless hunters they take to land very sparingly to oviposite and the nests become scarcer each year. The more enlightened people of Grand Manan have gradually come to a sense of duty over this slaughter, but as yet no definite steps have been taken to suppress it. The culprits are out of reach of the law on the uninhabited islands where they hold full sway, and like the colonies of Cormorants and Wild Geese which once swarmed the island, the Eider Duck will soon become a thing of the past. The feathers are worked up into fantastic shapes for head gear and other ornamental purposes and when a higher temperature causes the tourists to flock to Mt. Desert, Bar Harbor and other fashionable watering places of the Maine coast, they drive a very fair business at this questionable traffic.

American Herring Gull, *Larus argentatus smithsonianus.* We noted this bird on all parts of the island and seeing them occasionally in pairs and trios during our stay at North Head and growing more abundant as we journeyed southward along the coast. At the southern end we found several large colonies breeding. Noticeably abundant were the nests upon Wood's Island, while both Hay and Sheep Islands have numerous colonies. They do not strictly breed together, however, as we found scattering pairs nesting in the swamps on Ross and the main island. Naturally the nests are placed upon the ground, but having grown wary from the visits of the eggers, many have taken to shrubs and trees for protection. Here if out of reach they are practically safe, as the wants of the egg hunters are usually supplied by those gathered in positions easy of access. The wiser heads we found had done this, and as wisdom increases so does their distance from terra firma increase. The majority, however, still cling to the established customs of their ancestors and lay like hens until a set is allowed them. The natives use them largely for food and gather by basketfulls, which they sell for a small sum. the eggs having an intrinsic value of about a cent apiece. We found them upon our host's table, who considered the contents superior to those of rasorial fowl. To a novice, however, they have a slight "wild" taste. The yolks have when boiled either a bright yellow or an orange hue, the latter having a much more "wild" flavor.

On our arrival at a colony the inhabitants would at once take flight from the nests and circle about in hundreds over our heads, all the while keeping up a hoarse croaking which they would occasionally extend into a series of shrill screeches. The position which the Indians occupy in regard to securing the Gulls is a perfect vantage ground. The island on which they are stationed being a long narrow arm, over which the residents of the Hay and Sheep colonies must necessarily pass on the way to feeding grounds. Their flight being slow and steady they rarely swerve from a direct course unless a natural obstacle compels it. Both night and morning they fly over by thousands the island where so many of their kin have fallen victims; whereas a slight change in their route would carry them out of danger, at least from this source.

Their food is largely made up of sea urchins which they find in immense quantities on the borders of certain coves and inlets at ebb tide. Indeed, in some places the bottom of the bay is so thickly carpeted with the spined fellows that I could think of naught else that resembled it but the ground neath a huge New England chestnut after an early October frost. Hither at receeding tide the Gulls hie themselves, making the shores fairly white with their numbers.

The sea urchin is adroitly turned over and the flesh picked from a circular hole in the bottom without injuring the shell in the least. The nests which we examined, as a rule, contained three eggs as a full set, but those on the ground, many of which are daily harried, contained usually but one or two.

CHARLES H. ANDROS.

The Nesting of the Slate-Colored Junco, at Grand Manan.

BY FREDERIC H. CARPENTER.

The first observation of this species, *Junco hyemalis*, was a female flushed from her nest by Mr. F. W. Andros, in an old pasture, back of the town of Eastport, Maine. The nest was sunk into the side of a mossy hummock in damp earth; the set numbered four, with general colorization much darker than average specimens. Incubation was fresh. The locality was evidently not favorable to this species as we saw no more.

On the following day, June 5th, we arrived at Grand Manan, and had abundant opportunities for witnessing the nidification of the Juncos. They seemed to be rather restricted in their choice of breeding resorts. At North Head, where there were pastures half grown up with spruce and birch, with plenty of the low scrambling evergreen, called juniper by the natives, we found them much more plenty than at any other place on the entire island.

The majority of their nests were placed well into the ground, beneath the cover of the "Junipers." One set of five taken June 5th was exceptionally light in ground color, and almost as glossy as the eggs of the Yellow-breasted Chat. Their nests were invariably lined with hair and fine grasses, compactly woven into an outside of coarser stems.

At this locality they are abundant at times, every bush containing one or more individuals. They are hard to flush from their nests, often narrowly escaping being trod upon.

We found these birds at no other place very common. In the interior a very few were seen, and on the outer islands, while they occur at times in large numbers, yet they do not breed there to any extent. Mr. S. F. Cheney, with whom we spent a large portion of our time, has collected a remarkable series of their eggs during the past few years. According to this gentleman's experience, they nest under the protection of a rock, to the exclusion of every other situation. They probably made a substitute of the best thing in lieu of the absent junipers.

At the northern portion of the island they were not found at all, save an occasional lone specimen.

Repeal of the Pennsylvania Law Against Hawks.

BY J. P. N.

In THE ORNITHOLOGIST AND OÖLOGIST for May 1886, attention was called to the Act of Assembly, passed by the Legislature of Pennsylvania during the session of 1885, and approved by the Governor of that Commonwealth on June 23rd of the same year. A bounty was thereby fixed on all hawks, and for most species of owls, and thousands of them were slain to obtain the reward which the Legislature had most unwisely seen fit to place on them.

It has not taken long, however, to show the foolishness of the law, and it has now been repealed. During the session of 1887 an Act was passed, approved by the Governor on May 13th, 1887 (Pamphlet Laws of 1887, p. 116) whereby the provisions of the Act of June 23rd, 1885, offering the bounty, were repealed. And so simple justice has been done to these feathered friends of the farmer, and the statute book of Pennsylvania purged of a law which disgraced its pages.

Spotted Eggs of the Blue Grosbeak.

BY T. D. PERRY, SAVANNAH, GA.

This retired but beautiful species (*Guiraca cærulia*) has been written upon so often that it seems like trespassing upon the brother readers of the O. AND O. by afflicting them with it again, but the past season of 1887 has been one of successful events with me, and one in which so many new phases of bird life have been discovered, that I cannot refrain from telling about my discovering spotted eggs of this species.

May 24th, 1887, dawned bright and clear, and as usual I started for an all day's tramp, having nothing in particular to look for, but everything in general; so I kept well to the open country, which was thickly dotted with pine saplings, and a dense undergrowth of oak bushes. I had only gone a short distance when a bird flew from between my legs. I stopped short, parted the bushes, and there not more than two feet high, was a nest containing four pale bluish eggs with spots. I knew at a glance that I had never seen anything like them before, so I took them out carefully and began examining them, when by an accident one fell to the ground and was smashed, and the worst of it was that it was one of the best marked. As fretting would not replace it, however, I soon packed the remaining three in my collecting box and turned my attention to the nest, and as soon as I got it in my hand a thrill of joy ran through me, for then I knew I had discovered spotted eggs of the Blue Grosbeak.

Yes, there was no mistaking that nest. Everything, even to the traditional snake skin, was there (which, by the by, is strongly characteristic of them, as I have never yet found a nest that *did not contain it*). But to be on the safe side and make identity certain I waited, and very soon the *chuck*, *chuck* of the female was heard as she flew around the spot. She soon disappeared, only to return accompanied by the male. I watched them some time, being satisfied that I had found something I had never heard of before.

Two of the remaining three eggs are very thinly dotted with minute spots of red, while the third is marked very *distinctly* with *good-sized spots* of a reddish chestnut, and some few spots of subdued lilac (such as you will find in specimens of the Least Tern.) The large end is *very thickly marked*, while the small end has only two red spots (I thought at first that the markings were accidental, but upon washing I find they still remain), so taking them altogether they are very handsome, and as a set I prize them very much.

The eggs of this set measure .87 x .63, .82 x .62, and .82 x .62, which is almost the usual size, although some will measure .90 x .63, and I have one in a set of three that is only .75 x .58, and is the smallest I ever saw.

Now while this species is not common, it is very evenly distributed and particular, and this past season I have taken eleven sets of three eggs, four of four eggs, and several of two eggs, more than I ever took in any two seasons combined.

They arrive amongst us here about the 20th ot April, commencing to lay early in May, as I have found sets of them on May 10th, and fresh eggs as late as July 7th, leaving little doubt in my mind but that they rear two broods during the season. I have never heard them sing, and if they do it must be at rare intervals. The only note I have ever heard is *chuck*, *chuck*. Three eggs as a general thing is their usual number with us, and now and then sets of four.

They seem to prefer pine saplings to all other places, but you will find them in oaks, myrtle. bay and blackberry vines, at varying heights from two to six feet from the ground. The nests are very compact, and always composed of the same material. All eggs that I have ever found before were pale blue, fading somewhat after being blown, all but the set, referred to above, found this season; which scores another point, and a remarkable one, for 1887.

The Whippoorwill at Raleigh, N. C.

BY C. S. BRIMLEY.

A few particulars concerning our past year's experience with this bird may be of some interest to some of the readers of the O. AND O., and as an introduction I will first give a few data concerning the species:

The Whippoorwill arrives here about the 18th of April with tolerable uniformity, and from that time till the end of May its notes may be nightly heard by all who are near enough to its favorite haunts. From June on it is seldom heard and I cannot give the time of its leaving us but we have on one occasion taken it as late as October 10th. While here it seems to frequent the higher and dryer woods, and it is only in such localities there is any chance of finding it. This year it was first observed on April 18th; five days afterwards I was following some Towhees in a strip of woods on a rocky ridge running north, when a bird that at first I took to be an unusually large Towhee flew up almost from under my feet. I soon, however, recognized him as a Whippoorwill, and seeing him settle within easy shot I straightway collected him.

On May 5th my brother was collecting in a patch of woods on the same ridge, when a pair of Whippoorwills flew up almost from under his feet; he immediately collected one and then started to look for eggs. His search was soon crowned with success, for within a few feet of where the birds had flown from, lay two eggs in a slight depression among the dead leaves. The eggs, however, to our disgust, were within a few hours of hatching and we were unable to save them. Next day I went to look for the other Whippoorwill and scared him up within a few feet of where my brother had taken the eggs and forthwith added him to our stock. (This one proved a male; the female was shot the previous day).

On May 18th I was again collecting on the same wooded ridge, some half mile south of where my brother had taken the eggs, when as I was slowly making my way through bushes, briars and dead brush, a Whippoorwill flew up from a comparatively open space before me, and sitting on a fallen tree trunk commenced beating her wings, at the same time giving vent to a muffled booming sound, swelling her throat as she did so. I backed far enough to save her from utter annihilation on firing and then collected her with a warbler load. I found, however, that I had scarcely retired far enough as more feathers were shot away than was necessary or ornamental.

After bagging the bird, I commenced to look for eggs and presently found a downy little chick faintly chirping among the dead leaves; I collected him and noticing that he was in no depression whatever, extended my search and within too feet was the nest, or rather the depression, containing a single egg which I fondly hoped was addled, but my hopes were disappointed as a marked star showed itself on one side and a faint chirp was heard through the shell. I managed to preserve the hatched chick and its mother but not the hatching one. Thus nest number two produced no eggs but only a little yellow chick. Nine days after on May 27th, my brother was again collecting in the same patch of woods where he had found the first nest. He again scared up a Whippoorwill; this time in the opposite corner of the woods, and again collected it, on looking for eggs, however, he found none but noticed a slight depression among the leaves which he thought might be an intended nest and presume it was, for judge of our disgust when dissection showed that two or three days more would have sufficed to give us a fresh set of two eggs.

This concludes our season's experience with the Whippoorwill and its nest, and I think all Oölogists will agree with me that it is to say the least, mortifying to have been three times within the same month so near getting a set of Whippoorwill's eggs, and yet be a few days too early or late as we were.

Breeding of V. Solitarius in Bristol County, Mass.

BY F. W. ANDROS.

The only nest with the eggs of this bird that has been taken in this county to my knowledge, previous to this season, was found by Mr. F. H. Carpenter at Raynham, Mass., on June 6th, 1885, (see Pub. No. 3, Bristol Ornithological Club, 1887). It therefore gives me great pleasure to be able to add another authentic instance to the one quoted above. Mr. F. T. Lincoln, while collecting for me in the same town mentioned above, came across a beautiful nest of this bird on May 30th, 1887. It was placed in a walnut tree on the edge of a large pine grove, about six feet from the ground, and is the handsomest as well as the largest nest I have ever seen made by this family. It is composed externally of strips of fibrous bark, beech leaves, strips of dried grass, pieces of hornet's nest, plant down and caterpillar's silk; woven in with this and outside of all, is some very fine white cotton that the builders had access to in some way or other. I have an idea it is pieces that I left in that neighborhood while in quest of the "Buteos" late in April. This is lined with pine needles and a few dry stiff strips of grass. The bird sat very close and was examined under similar circumstances as in the foregoing case. The nest held three slightly incubated eggs at this date, showing that they nest earlier than the other well-known birds of this family. Mr. Lincoln has since informed me that he knows of a certain tract of woodland in this county where several pairs breed annually, but he has never seen them outside of this place.

Nesting of the Whip-poor-will.

BY G. S. H., BETHEL, CONN.

On the morning of June 23rd, 1886, as I was walking through the woods I flushed a Whip-poor-will, (*Caprimulgus vociferus*) from off the ground a short distance in front of me, and on going to the spot where she arose I saw a single egg lying in its apology for a nest at the base of a white oak tree. The woods had all been cut off the previous winter from around the tree, except on the north side about twenty feet from it, where there was a clump of small saplings and bushes. I left the egg thinking there would be one more by another day, it being situated in a place where I was in the habit of passing from two to three times a day. I waited two days, visiting it four times in the interval, each time the owner flying directly off from the egg when I was about twenty-five feet from it and alighting in the bushes on the north side. I secured the egg on the 25th of June, and did not go near the place again until the 28th, when I was very much surprised by seeing another egg in the same place but did not see the parent bird. I also visited this twice a day for the next three days, when as I had seen nothing of the owner I concluded on the first day of July to secure it but was disappointed to find the egg gone. The same pair presumably had nested in the immediate vicinity for several years back.

Breeding Dates of Birds Near Frogmore, S. C.

BY WALTER HOXIE.

April 13, Oystercatcher.
" 27, Black Vulture.
" 27, Louisiana Heron.
" 27, Snowy Heron.

One egg of each of these herons was collected on that date. On the 19th of May all nests were full and incubation in many, quite advanced.

May 3, Loggerhead Shrike.
" 3, Willet.
" 7, Night Hawk.
" 28, Nonpariel.
Last date observed June 4.
May 28, White-eyed Towhee.
" 28, Red-winged Blackbird.
" 28, Cardinal.
" 29, Ground Dove.
" 28, Kingbird.

These are all egg dates. Below I give some dates on which young birds were observed.

March 14, Pine Creeping Warbler.
April 2, Barred Owl, well fledged.
May 19, White-headed Eagle, still in down.
April 29, Boat-tailed Grackle.
" 28, Green Heron.
May 3, Least Bittern.
" 4, Clapper Rail.
" 5, Great Blue Heron, half grown.
" 13, Brown-headed Nuthatch.
" 16, Carolina Wren.

Corrections.

In article by Hilton B. Read, in August O. AND O., in reference to the Screech Owl, page 118, the types say on the 17th line from bottom of page, "foregoing." It should read preceding. On same column, 15th line from top the word *our* should be inserted between "all" and "Owls," as it referred only to birds of this county.

On page 136, August O. AND O., 13th line from the bottom of second column, "West Indian Level" should read *West Indian Seal.*

Notes from New Haven, Conn.

BY E. L. MUNSON.

November 4, 1883, I took an adult female King Eider near Milford, Conn. It is now in the collection of Mr. L. C. Sanford of this city. September 1, 1885, Mr. Sanford captured a male Blue-gray Gnatcatcher near East Haven, Conn. On August 4th and December 25th, 1886, I had the good fortune to take specimens of Northern Phalarope, male, and adult male Mallard, on the "Quinnipiac" marshes, near New Haven. August 30, 1886, Dr. E. T. R. Thompson took a Curlew Sandpiper, male, and on September 16, 1886, there was a Stilt Sandpiper, young, taken; both at "Quinnipiac" marshes.

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Any collector who will kindly send data of size of sets of the Western Hawks or Owls, to F. H. Carpenter, 409 Washington street, Boston, Mass., will greatly aid in ascertaining an important oölogical truth. Due credit will be given.

Prof. Spencer Fullerton Baird.

Prof. Spencer F. Baird died at Woods Holl, Mass., August 19th, 1887. He was born at Reading, Pa., Feb. 3rd, 1823, and graduated from Dickinson College at the age of seventeen. His early taste for natural history studies led him to make extensive researches in that science. Upon the death of Prof. Henry in 1878, Prof. Baird assumed entire executive control of the Smithsonian Institute. The results of the wisdom and energy of his guiding mind are visible in the extensive and available collection of the Institute. In conjunction with his other duties Prof. Baird wrote many scientific treatises, everywhere recognized as authorities of the subject upon which they treat. He was in 1871 appointed United States commissioner of fish and fisheries, which involved additional labor and in which he achieved great success in bringing this important commercial interest to its due recognition, but his work proved too much for human structure to withstand and without doubt Prof. Baird fell a victim to his arduous duties.

Publications Received.

American Naturalist, August.
Book Chart, August.
Forest and Stream.
Hoosier Naturalist, July.
Guide-book to Megantic Lakes and Dead River Region.
Ottawa Naturalist, August.
Poultry World, August.
Scientific American.
Western Naturalist, August.
West American Scientist, August.

CORRESPONDENCE.

"Audubon."

EDITOR ORNITHOLOGIST AND OÖLOGIST,

Dear Sir: — I notice in the O. AND O. just received, that in my brief communication, you have allowed the printer to change the name of Audubon to Audobon. I would not like the readers of the O. AND O. to think, that after all the years I have given to the study of this great man and his works, that I would spell his name Audobon; but this would be the impression, unless a correction is made. When I visited the tomb of this wonderful man, in Trinity Cemetery, N. Y., some years ago, I noticed that the sculptor had made the same mistake, when cutting the heavy letters in relief, over the massive granite entrance to the tomb: — making it necessary to cut out a square piece of granite containing the letter "o" and inserting the letter "u" in its place. In my researches in everything concerning Audubon, I had the tomb photographed, and the change of letters shows in the print.

During the years that I published the O. AND O., I was surprised to find how little was known of the works of Wilson and Audubon, by our collectors. Some did not even know of their existence, but collected eggs as a boy would marbles or postage stamps. The reading of the works of Wilson and Audubon should be the college through which every collector of skins or eggs should pass. All the modern works combined cannot substitute the pleasure to be obtained from the reading of these two great men's works. When one fully understands them, and the difficulties they have overcome, he is ready to say to the modern critic, "hold! they are above criticism, and thou canst not dim the lustre of their fair fame."

Yours truly,

JOS. M. WADE.

OCTOBER, 1887.

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VOL. XII. BOSTON, MASS., OCTOBER, 1887. No. 10.

Notes on the Birds of Levy Co., Florida.

BY PHILIP LAURENT.

The following notes and observations were made during eight weeks spent in this county; the four weeks ending March 25th, 1886 and the four weeks ending March 23rd, 1887. Most of the time was spent in the Hammock lands and but few trips were taken in the Pine lands, owing to the scarcity of bird life in the latter place.

The following list although small and representing but a small portion of the birds of this county, embraces only such as came under my own observation.

Anhinga anhinga, Snake bird. Common along all the rivers.

Phalacrocorax dilophus floridanus, Florida Comorant. Secured the only specimen seen.

Anas fulvigula? Florida Duck? A bunch of about twelve seen.

Anas carolinensis, Green-winged Teal. But five specimens seen.

Aix sponsa, Wood Duck. Two male birds seen.

Guara alba, White Ibis. Secured the only specimen seen; reported to be common in April.

Botaurus lentiginosus, Bittern. Secured several specimens.

Ardea herodias, Great Blue Heron. Common.

Ardea egretta, White Egret. Common.

Ardea cœrulea, Little Blue Heron. Common.

Ardeb virescens, Green Heron. Common.

Nycticorax nycticorax nævius, Black-crowned Night Heron. Common.

Nycticorax violacens, Yellow-crowned Night Heron. Scarce, secured the only specimen seen.

Aramus gigantius, Limpkin. Scarce, but one specimen secured.

Rallus longirostris crepitans, Clapper Rail. Common on the marshes near the mouth of all the rivers.

Gallinula galeata, Florida Gallinule. Common on every pond we visited.

Philohela minor, American Wood-cock. By no means scarce.

Gallinago delicata, Wilson's Snipe. Very common.

Totanus melanoleucus, Greater Yellow-legs. Only five or six specimens seen.

Ægialitis vocifera, Killdeer. Very common.

Colinus virginianus, Bob-white. Very plentiful; of the many secured I was unable to find any difference from our northern bird.

Meleagris gallopavo, Wild Turkey. Plentiful.

Zenaidura macroura, Mourning Dove. Very common, always in large flocks and generally found in the young orange groves.

Columbigallina passerina, Ground Dove. Common, always seen in the freshly plowed fields.

Cathartes aura, Turkey Vulture. Very common.

Catharista atrata, Black Vulture. Very common.

Elanoides forficatus, Swallow-tailed Kite. But five specimens seen; reported to be common late in April.

Buteo lineatus alleni, Florida Red-shouldered Hawk. Very common; not an uncommon sight to see as many as ten at a time circling round and round and uttering their shrill cry.

Falco sparverins, Sparrow Hawk. Very common; some specimens show much variation from our northern bird.

Pandion haliaetus carolinensis, Osprey. Common; many nests to be seen scattered along the rivers.

Syrnium nebulosum alleni. Florida Barred Owl. Common everywhere in the Pine lands as well as in the Hammocks.

Megascops asio, Screech Owl. Not common, but one specimen secured.

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Ceryle alcyon, Kingfisher. Quite common along the rivers.

Campephilus principalis, Ivory-billed Woodpecker. Not as rare as many think; all the residents with few exceptions are acquainted with it. Five birds came into my possession during my last trip, but three of them having been shot with a 44 Winchester were of no use as cabinet specimens; the other two a male and female are beautiful specimens and occupy a place in my collection.

Dryobates pubescens, Downy Wood-pecker. Not rare but seen oftener in the pine woods than in the Hammocks.

Ceophlœus pileatris, Pileated Wood-pecker. So common as to be almost called a nuisance from the continual racket that they make.

Melanerpes erythrocephalus, Red-headed Woodpecker. But one specimen seen in the pine woods.

Melanerpes corolinus, Red-bellied Woodpecker. Very common, generally found feeding on the tall palmato trees.

Colaptes auratus, Yellow-shafted Flicker. Very common.

Antrostomus vociferus, Whip-poor-will. But one seen.

Trochilus colubris, Ruby-throated Hummingbird. But two specimens seen.

Sayornis phœbe, Phœbe. Very common.

Cyanocitta cristata, Blue Jay. Very common; the Florida variety not seen.

Corvus americanus, American Crow. Common.

Corvus ossifragus, Fish Crow. Common on the rivers towards the gulf.

Agelaius phœniceus, Red-winged Blackbird. Very common; always in large flocks.

Sturnella magna, Meadow Lark. Common; generally in flocks of fifty or more.

Quiscalus quiscula, Purple Grackle. Common.

Spinus tristis, American Goldfinch. One large flock seen feeding in a live oak tree, from which three specimens were obtained.

Poocœtes gramimus, Vesper Sparrow. Common.

Ammodramus savannarum passerinus, Grasshopper Sparrow. But one seen.

Zonotrichia albicollis, White-throated Sparrow. Of all the Sparrows the commonest; often seen in the barn in company with the Cardinal feeding on the manure pile.

Spizella socialis, Chipping Sparrow. Common; about thirty found shelter at night in an orange tree by my window, the birds sitting close to the trunk of the tree, six and seven side by side.

Melospiza georgiana, Swamp Sparrow. Common on the marshes.

Pipilio erythropthalmus, Towhee. Very common, but was unable to find the White-eyed variety.

Cardinalis cardinalis, Cardinal. Very common; in company with the White-throated Sparrow they would be found in the barn feeding on the manure pile, often did I count as many as ten of each of these species in the barn at one time. On anyone entering the barn they immediately made their exit through the cracks in the side of the barn.

Passerina ciris, Painted Bunting. I failed to see more than two of this species, although reported to be plentiful in April.

Progne subis, Purple martin. Saw one small flight of about eight birds.

Tachycineta bicolor, Tree Swallow. Very common.

Ampelis cedrorum, Cedar Waxwing. Very common, always in large flocks.

Vireo novaboracensis. But two of these species seen.

Compsothlypis americana, Parula Warbler. Very common, always in the tops of the maple trees.

Dendroica coronata, Myrtle Warbler. Very common.

Dendroica palmarum, Palm Warbler. Very common in the freshly plowed fields.

Dendroica discolor, Prairie Warbler. Two specimens seen, only one secured.

Mimus polyglottus, Mockingbird. Very common; when one is seen its mate is sure to be not far off.

Galeoscoptes carolinensis, Catbird. But one seen.

Harporhynchus rufus, Brown Thrasher. Common.

Thryothorus ludovicianus, Carolina Wren. Two pairs of these birds seen. No 1 completed its nest on 3-16-86, the other pair after working five days had not yet completed their nest when I left 3-25-86.

Parus bicolor, Tufted Titmouse. Common generally in small flocks of five or six.

Parus carolinensis, Carolina Chickadee. Some eight specimens seen.

Polioptilia cœrulea, Blue-gray Gnatcatcher. But one seen.

Turdus ustulatus swainsoni, Olive-backed Thrush. Very common.

Merula migratorius, American Robin. Very common; large flocks were always to be found feeding in the chinaberry trees. On several occasions I picked up birds under these trees that had become overpowered from over indulging in this their favorite food in Florida.

Sialia sialis, Bluebird. Very common, always in the orange groves.

◆

The Limpkin and its Nest and Eggs.

BY THOS. H. JACKSON, WEST CHESTER, PA.

The Limpkin, (*Aramus giganteus*) exists in North America only in restricted portions of Florida, and in these localities was once doubtless an abundant resident. But the encroachments of civilization, together with the insatiable spirit of destruction that characterizes a large portion of the Northern visitors to that state, have greatly reduced its numbers and promises ere long to entirely exterminate it. The name Limpkin is given because of its peculiar halting gait when moving on the ground. Another and quite appropriate name is that of the Crying Bird, as its note greatly resembles the cry of a child in distress and can be heard at a considerable distance.

My attention was first attracted to them while at Sanford, Florida, a few years since, where in the dense swamps that border the St. Johns River and Lake Monroe they seemed, judging by their cries, to be quite numerous. But not until some weeks later when making the trip of the Ocklawaha River, did I see them in their native haunts. The nature of this stream and its environments seems to make it peculiarly adapted for their home. For over one hundred miles this river is navigable by a small, peculiarly constructed steamboat — for no ordinary craft could thread its course through a channel so narrow and tortuous.

From the time you leave the St. Johns and plunge into the narrow hidden mouth of the Ocklawaha River, twenty-five miles south of Palatka, until you emerge into that marvellous wonder of nature, Silver Spring, your journey is through one of the wildest and most enchanting scenes of sub-tropical beauty to be found in this country. The river is in many places so narrow that the boat touches the banks and trees, while it is walled in on either side by forests of giant cypress towering one hundred feet or more toward the sky. Palmettos, or cabbage trees, as they are called, also form a conspicuous part of the vegetation and the spaces between are filled in with smaller trees, while everything is over-run with a rank growth of vines, often presenting a solid and impenetrable wall of vegetation from the surface of the water up.

It can be readily imagined what a secure and attractive retreat this affords for innumerable birds. Warblers of many varieties, most of them familiar to us in their vernal migrations northward, were constantly in sight and seemed so tame that they paid no attention to the passing boat. Herons, of both the Blue and Snowy white species, rose at nearly every bend in the river; Mallard, Teal and the beautiful Wood Duck (*Aix sponsa*), surprised in their solitary feeding ground, rose and skurried away before the puffing monster that seemed so much out of place in such a solitude.

In these localities the Limpkin makes its home, feeding on the frogs, snails and aquatic insects that abound in the muddy bottoms along the river. The Limpkin is a rather handsome bird when seen in its native wilds, and gave me a very different impression than I had received from mounted skins seen in the museum. The plumage is of a chocolate color, streaked with white. Its flight is a lazy flapping of the wings, not unlike that of the Heron, and I frequently saw them rise before the boat, fly a short distance and again alight and await our coming. Occasionally the piercing cries of these birds would startle us as we passed some dark jungle, being within a few yards of the river bank, but always invisible. I was informed by the natives that the Limpkin was considered good eating, the young being tender and juicy and were in considerable request as a game bird.

For a nesting place this bird chooses a secluded spot where intruders are not likely to venture, on the bank of a river or a slough, often overhanging the waters and surrounded by a bottom of mud so deep that only a boat can give access to it. Several pairs often nest close together in the manner of Herons, though isolated nests are frequently observed.

The nest is composed of pieces of dead vines, dry leaves and old vegetation of various kinds loosely constructed, and is generally bedded on a mass of vines and from five to eight feet from the ground.

Five years ago, about the last week in March, while going up the Ocklawaha, I had my first view of the nest and eggs of this bird. While sitting upon the upper deck watching the various objects of interest that were constantly appearing, we came to a sharp bend in the river that required steam to be shut off and the assistance of a stout pole to get us around the point. As we swung against the bank I noticed a Limpkin sitting on her nest in a tangle of vines, within ten feet of me and on a level with the deck. She did not appear at all alarmed but sat motionless until I clapped my hands, and then moved off just far enough to display a handsome nest full of eggs, six in number. I would have given twice the cost of my ticket for a chance to secure them, but it was a bad case of "so near but yet so far," for there was no landing within two miles, and to be left alone in such a spot without guide or boat was not a desirable predicament, so I consoled myself with having been so fortunate as to have seen nest, eggs and bird at such close range.

With these birds the nesting season commences very early in the spring, many of the nests having eggs by the middle of February, and from the lateness of some of the sets taken (June 20th) I suspect two broods are reared during the year.

While at Silver Spring, Marion County, in March, 1887, a set of seven was brought to me on the 13th of the month, which were taken a few miles below on the "Run Run," as the outlet is called. They were far advanced in incubation and I saved them with great difficulty. This set must have been laid early in February.

The usual complement laid by the Limpkin is five or six eggs, though four and seven are not unusual numbers. A series of fourteen sets in my cabinet show, the following numbers: eight sets of six, one of five, two of seven, two of four, and one of three eggs. In size, shape and texture of the shell they resemble those of the domestic fowl, while in color and markings the only egg to which they bear any resemblance is that of the Sand-hill Crane. Generally the ground is of a grayish white, varying from an almost pure white to a creamy yellow or buff, this latter form being quite rare. The series above mentioned shows a great variety of markings, some of them being very beautiful and almost as rich and delicate in their coloration as the eggs of any of our Hawks. One set of six is especially noticeable. They are almost covered at the greater end with different shades of chocolate brown of varying intensity. Some of the blotches are bold and distinct, while others seem beneath the surface of the shell and gradually fade into the grayish white of the ground, and over all is an ashy deposit, very light but sufficient to soften the tints and give the colors a subdued effect. In addition to the heavier markings the entire surface of the shell is thickly sprinkled with dots of the same color.

Another set of four is of the buff ground, the markings being confined entirely to the greater end, covering it, while the ashy deposit extends all over the surface in spots and patches. This ashy substance will not wash or rub off but is firmly fixed as the color itself.

In regard to measurements my series present some noticeable contrasts. For instance, the largest set of six eggs gives following dimensions: 2.57x1.80; 2.44x1.55; 2.40x1.77; 2.28 x1.75; 2.39x1.80; 2.41x1.83; while the smallest set of the series gives 2.21x1.72; 2.21x1.70; 2.22x1.62; 2.23x1.63; 2.45x1.63; 2.23x1.65. The greater number of the sets, however, average about half way between these extremes.

Prothonotary Warbler in Western Illinois.

BY OTHO C. POLING, QUINCY, ILL.

The Golden Swamp Warbler, (*Protonotaria citrea*) is perhaps the most abundant bird in the Bottom Lands on either side of the Mississippi for about twenty miles north of Quincy in Illinois, while in Missouri it is most plentiful just across the river. It not only frequents the dense and heavily timbered tracts but is also found in more open places and along the stagnant sloughs and ponds where an occasional clump of birch or willows affords shade and a nesting place. By the first week in May the birds are here in abundance, when pairing is soon begun and throughout the month of May they have a peculiar little song uttered at all times, while the birds may be seen flitting rapidly across the water or perched among the willow tops. The song of this bird may be compared with that of the Yellowbird, though much louder and more distinctly uttered.

Soon after their arrival from the south and when the mating is in some measure settled they select as a nesting site the decayed cavity of some stump or tree leaning over the water, or in deep moist woods. The place selected may be at some distance from any body of water. I have found the nest in holes of piers supporting bridges and within a few inches of the water. In one instance I remember finding a nest with eggs just on the point of being submerged, while the parent bird flitting to and fro showed much distress at their peculiar situation.

The Prothonotary Warbler is a strikingly handsome bird and in the richness of color it has few rivals; when once seen in its native surroundings it is not soon forgotten. The same may be said of its nest, which is quite as peculiar and interesting in construction and material as in the situation. It consists chiefly in common green moss which remains fresh until after the young have left. The lining is mostly of hair and fine grass. Some nests have nothing but the moss which is loosely thrown in until the cavity is filled to a proper height. I have removed from a single cavity upwards of a quart of moss, besides the grass and other substances.

In most cases the hole in which the nest is placed is badly broken out and decayed and the top of the nest is seldom more than six inches below the entrance, while it is often filled to the top. My first record for 1887 was a nest with six beautiful eggs, placed in the small cavity of a horizontal willow limb reaching far out over the water; the limb being slender and the entrance on the under side there was but little room for any nest and the eggs were arranged on a slight layer of hair and grass, back of which for at least a foot the cavity was filled with moss. This nest, could it have been preserved in its original shape, would present a somewhat singular appearance.

The eggs of this Warbler while showing some variation in markings are usually of a rounded oval shape of nearly equal size at the ends, some being nearly spherical, while others are much elongated. Out of a large number of eggs collected during the past season, the typical set shows measurements as follows: .73 x .55; .73 x .52; .73 x .52; .72 x .52 and .72 x .50.

The usual number of eggs laid is six, sometimes five and but rarely seven.

Nesting of the Short-eared Owl.

(*Asio Accipitrinus*).

BY DR. W. S. STRODE, BERNADOTTE, ILL.

On April 19th, 1887, I had occasion to go to Spoon River and three miles above town, so I thought I would improve the occasion by making the run in my boat and on the return to take a look for nests of the *Raptores*. So taking my climbers, a hatchet and a ball of string, I considered myself equipped for a climb to any kind of a nest that might turn up.

Throwing off my coat and vest and there not being much current in the river — the mill dam backing the water for five miles — I took the shady side of the stream and made my boat fairly flash through the clear water, arriving at the spot where I wished to land in forty minutes from starting. In returning to the boat after attending to my business, I noticed a single crow away down the river a quarter of a mile, that appeared to be having a camp meeting all by himself. The location was a swampy marsh, with a dense growth of scrub or swamp oak, with an undergrowth of hazel so thick that to go through it a person at times would have to go down on all fours. Suspecting an owl or a hawk to be the cause of all this fuss from the crow I at once started for the locality. Making my way for a hundred yards or so, I was electrified to see a Short-eared Owl, (*Asio Accipitrinus*) fly from a skeleton nest twelve feet up in an oak. Going up I found nothing in it and after thinking the matter over a while I concluded that this might not be the nest of the owl at all. After searching about for a short time, I came to a tree containing a nest at the height of about fifteen feet, and presently the ear tufts followed by the yellow eyes came up over the edge of the nest and proceeded to size me up.

Now, I thought, there can be no doubt about this being the right nest, and going to the tree I commenced the ascent. At the first step the *Asio* left the nest and disappeared in the thick brush, and I did not see either of them again until I had got within four feet of the nest, when suddenly they appeared, growling and caterwauling like angry Tom cats. After watching their strange actions for a short time I went on to the nest, and was almost struck dumb to find it entirely empty. This I could not understand, as the nest had every appearance of having been occupied for a considerable time. It was composed of twigs with an inner lining of grape vine bark and feathers.

Not being able to solve the problem, I turned to look at one of the owls that sat on a limb about eight feet from the ground and about thirty feet from me. This one, which I took to be the male from his coarse voice, finding himself observed proceeded to treat me to a tumbling feat and to play the cripple act to perfection. Throwing himself backward he fell off the twig down to the ground where he rolled about in apparent great distress. But on my starting down from the nest, a transformation immediately came over them and they disappeared quickly in the brush and I saw them no more.

Sadly I returned to my boat, and during the trip home and for the rest of that day the query was constantly in my mind, why was there not eggs in that nest? Or if there had been what had become of them?

This was all made plain the day following, when in passing the house of a young farmer in this neighborhood, he saluted me with "Hello Doc., don't you want some little hawk's eggs?" And he immediately brought out to me four white elliptical beauties. Upon asking him where he obtained them, he pointed to the swamp oak thicket where my Short-eared Owl's nest was located; and so the mystery was solved and all was well.

The eggs on blowing, I found to be fresh and averaging in size about one and one-half by one and one-fourth inches.

The young farmer mistaking the owls for hawks is about a fair sample of the knowledge the people in general have of the birds. Not knowing the names even of many of the most common birds and having still less knowledge of their habits.

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Nesting of the Maryland Yellow-throat.

BY WILLARD L. MARIS, WEST CHESTER, PA.

A very interesting and quite common little bird of this locality, the Maryland Yellow-throat, (*Geothlypis trichas*) has for some time baffled my efforts to find its nest. However, this spring, I found the long looked for treasure, a beautiful set of five eggs.

This well-known bird arrives in this locality about the tenth of May, and after a few days spent in selecting a suitable nesting ground, at once commences building. During the incubating period, the female is seldom seen, unless a close approach to the nest, where almost her whole time is occupied, is made; and even then as soon as the nest is touched she will vanish in the woods. The males may be seen frequently and quite often not in the locality of the nest, which, together with the fact of its being placed on the ground in the woods at the foot of a bush, and being sometimes domed over, renders it no easy matter to find it.

On the 28th of May, of the present year, when on a collecting tour a few miles from home, I chanced to see a male Yellow-throat fly from the edge of a woods. It being a favorable place for this bird of course I immediately began a search, but for fully fifteen minutes no trace of a nest could be found, and I nearly trod on it before the female flew away, thus showing me her hiding place. The nest was made chiefly of bark, and lined with a little horse-hair, and located in the usual place which this bird chooses, namely—on the ground at the foot of a small bush. It was rather bulky for so small a bird, and the black lining well set off the five fresh, pinkish tinted eggs. The brownish red spots were scattered all over the eggs, although chiefly in a ring around the larger end. On two there were a few small blotches. In size they were somewhat smaller than eggs of this bird usually are, measuring: .62 x .47; .59 x .48; .61 x .47; .59 x .47 and .61 x 48.

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Dates of Birds Nesting at Ralelgh, N. C., in 1887.

BY C. S. BRIMLEY, RALEIGH, N. C..

April 7. Red-shouldered Hawk, (*Buteo lineatus*) set of three; another set of two from the same birds taken May 28th.

April 21. Barred Owl, (*Strix nebulosa*) nest containing grown young found.

April 21. Bluebird, (*Sialia sialis*) (eggs).

April 26. Pine Warbler, (*Dendrœca pinus*) (young). Carolina Tit, (*Parus carolinensis*) (young).

May 4. Mockingbird, (*Mimus polyglottus*) (eggs). Last nest found July 30 (three eggs).

May 5. Whippoorwill, (*Caprimulgus vociferus*) (well incubated).

May 20. Turkey Buzzard, (*Cathartes aura*) (eggs).

May 24. Great Crested Flycatcher, (*Myiarchus crinitus*) last set found June 15th.

May 31. Green Heron, (*Butorides virescens*) (eggs).

June 8. Orchard Oriole, (*Icterus spurius*).

June 11. Yellow-breasted Chat, (*Icteria virens*) last set found July 2nd.

June 14. Acadian Flycatcher, (*Empidonax acadicus*) nest with two nearly fledged young found. The nest was a very flimsy affair, looking very much like a Chipping Sparrow's, (*Spizella domestica*) with the lining pulled out, and the young birds were plainly visible through the bottom of the nest.

July 27. Yellow-billed Cuckoo, (*Coccyzus americanus*) nest with three eggs found.

August 19. Another nest of Yellow-billed Cuckoo found within a hundred yards of the first one. This nest only contained one egg which was left till August 22nd and then taken, as no more had been laid. It proved to be fully incubated but the embryo was dead, or it ought to have hatched in a couple of days.

Observations on Eggs Collected in Lee County, Texas, etc.

BY J. A. SINGLEY, GIDDINGS, TEXAS.

The allusion to "fortunate collectors" in the O. AND O. reminds me that I partially promised to say something about the number of eggs found in a set during the season of 1887.

I have been fortunate also in taking other rare species. Amongst the good things may be mentioned eight sets of Swallow-tailed Kite, (*Elanoides forficatus*); four sets of Mississippi Kite, (*Ictinia subcœrulea*); two sets of Caracara Eagle, (*Polyborus cheriway*); one set Black-capped Vireo, (*Vireo atricapillus*); twenty-seven sets of Carolina Chickadee, (*Parus carolinensis*); eleven of Tufted Titmouse, (*Lophophanes bicolor*); thirteen of Florida Barred Owl, (*Strix nebulosa alleni*); five of Texan Screech Owl, (*Scops asio maccalli*); three Great-horned Owl, (*Bubo virginianus*), and thirty-nine full sets of Red-bellied Hawk, (*Buteo lineatus elegans*), not saying anything about the numerous sets of Turkey Buzzard, (*Cathartes aura*) and Black Vultures, (*Catharista atrata*) and others.

I must say, however, that all of these sets were not taken in Lee County, as I have collectors in all of the adjoining counties looking out for rarities. Three of the sets of *Elanoides forficatus* were taken in Lee, two in Bastrop (along the Colorado River), two in Washington, and one in Williamson counties. Measurements and descriptions of this species of eggs have been given so often that I omit them, merely stating that the eggs presented the usual variations in size and markings. One of the sets contained three eggs, and this, with a nest found in former years containing three young, makes two nests out of a total of twenty-one examined that contained more than two eggs or young.

I was in at the taking of only one set of the eggs — taking the nest and one of the parent birds — the male, which was incubating. The female came while my climber was securing the nest.

I have noticed a curious fact about this Kite. When one is flushed from the nest there may not be another Kite in sight, but in fifteen or twenty minutes there will be anywhere from four to a dozen of the birds performing their graceful evolutions overhead. This is almost invariably the case.

The Mississippi Kite's (*Ictinia subcœrulea*) sets were all taken in this (Lee) County. Three of the sets contained two eggs each, the fourth contained three eggs, and another nest contained three young. The sets found by Col. Goss, I believe, contained only two eggs. All of the nests contained green leaves of some kind in the lining of the nests, and all the eggs were of the typical bluish tint *unmarked*. There was no great variation in their size.

This species is getting to be more common here, as previous to 1886 I had not noticed it, but this season I saw many of them.

My set of Black-capped Vireo, (*Vireo atricapillus*) was found by accident. I had been to Bastrop County to get a set of Swallow-tailed Kite's eggs collected there for me, and when on my way back I stopped on top of the bluffs that border the Colorado River, at a place known as Slum Creek, in order to rest my pony and dispose of a lunch, it being noon. The elevated country there is known as the "pine barrens," being covered with a growth of scrubby pines. Whilst resting I concluded to do a little collecting in land shells, and had not gone far before I noticed in a small pine what I took to be a nest of the White-eyed Vireo. I thought it late for this species to be nesting, it being the 17th of May, but took a look at the nest, and at once saw that it was not the species I had taken it to be, as the eggs were unmarked. I unfortunately had no shot-gun with me, but going to where my horse was tied I took my Winchester repeater out of the scabbard, and taking a position close to the nest awaited my bird, and before long saw it flying towards the nest. Instead of alighting, it passed over, and then turning approached the nest by short flights. It alighted at last on a limb near the nest, and commenced dressing its feathers. Taking a careful aim I had the satisfaction of seeing it fall when I fired, but I am sorry to say that the 38 calibre bullet left me a very poor specimen to skin. The bird was badly mutilated, and I had no idea even then of what I had found, but taking as much of the skin as the bullet had left, I put it in my collecting box for identification when I got home.

Instead of saving the nest as I should have done, I pulled it to pieces to learn its composition. It was composed throughout of pine needles with here and there bits of moss, and pieces of rotten wood worked in. The whole was fastened together, and to the small forks of the limb, with cobwebs. The only lining was a piece of green moss in the bottom of the nest — the sides not being lined.

I will pay a visit to the same locality on another year for the special purpose of taking nests, eggs and birds of this species.

A few remarks may not be out of order on some of the birds given in Mr. G. B. Benner's list, Nos. 4, 5 and 6, and that of Mr. Harry P. Atwater in Nos. 7 and 8 of current volume of O. AND O. Mr. Benners gives *Dendrœca dominica* as occuring in Comal County. It is undoubtedly *D. d. albilora* as they occur here. I have taken several of them, and one of them of which I was doubtful I sent to Mr. George B. Bennett, and he wrote me, "You can label this either *D. dominica* or *D. d. albilora*." In this specimen half of the superciliary line was white, the other half yellow.

"Loggerhead Shrike" is probably White-rumped Shrike, common here in the fall and winter. "Barred Owl," should be Florida Barred Owl, this being the form found here, and has been reported to me from Gainesville, Texas, Beaumont, Texas, and adjacent portions of Louisana.

Mr. Atwater also gives the Barred Owl as occuring near San Antonio, Texas, and lists Red-shouldered Hawk from the same locality. It would be interesting to know if he took specimens of the above species and had them identified by good authority. In these days of basing a sub-species on hair-splitting differences, an amateur can not well determine the varieties. In fact it is impossible to do so without having access to large series of specimens of the species to be determined. I have all my birds determined by the best authorities, as I made mistakes in identification when I first commenced collecting, some six or seven years ago.

I noticed the article by Mr. E. C. Davis of Gainesville, Texas, in July number, current volume of O. AND O. It is not my purpose to enter into a useless controversy about the number of eggs laid by any bird, as locality has much to do with such a matter. I can, however, give my experience. I have this year taken (through my collectors, partly) thirty-nine sets of Red-bellied Hawk, (*Buteo lineatus elegans*) in which incubation was far enough advanced to be called full. Of these thirty-nine twenty-two were sets of three, and the remainder of two eggs each. I think my collectors are as careful in such matters as it is possible to be, and as it is to their pecuniary benefit to find as large sets as possible, I do not think that they would take a nest of eggs until the set is full.

Mr. Davis takes me to task for some things I have written. I have no apologies to make, I simply stated the facts as I knew them, or as they had been represented to me. In the article to which Mr. Davis refers I wrote that Mr. Ragsdale had never taken more than three eggs in a set of *Red-shouldered Hawk*, but the printer made me say "*Red-bellied Hawk.*"

Mr. Davis also seems to think it would be impossible for a species to be resident here and not occur in his locality. He should study up on "Geographical Distribution." I found Texan Cardinal, (*Pyrrhuloxia sinuata*); common in Burnet County, Texas, seventy miles from here, but six years close collecting has not shown it to occur here. This is only one instance where I could name dozens. Two species at least I know to occur here that do not occur in Cook County, viz. Texan Screech Owl, (*Scops asio maccalli*) and Texan Quail, (*Ortyyx virginiana texana*) — Mr. Ragsdale's cabinet specimens of the latter species having been obtained from me.

The fact of Mr. Ridgway not having found *Buteo lineatus elegans* east of the Rocky Mountains does not alter the case any. If Mr. Davis will turn to page 189 of the *A. O. U. Code and Nomenclature* he will see that *B. l. elegans* is given the habitat "from Western Texas to California, and south into Mexico." Mr. Ridgway was one of the committee of five who prepared the "Code," and it don't look as if he did not know the species to occur "east of the Rocky Mountains." In the same work quoted above, on page 199 he will also see the habitat of *Syrnium (Strix) nebulosum alleni* given as "Florida" — a very restricted distribution which Mr. Davis knows to be incorrect, and going to show that even so accomplished an ornithologist as Mr. Ridgway has something to learn of the distribution of some species.

About the number of eggs in a set of *Buteo lineatus elegans*, Mr. A. M. Ingersoll of San Diego, Cal., writes me that he has taken two sets of four eggs each of this species, but I am not surprised at this, as California sets of eggs, like the fruits and "wegetables" of that state, are on a large scale!

Regarding some other species I quote from his (Mr. Ingersoll's) letter, "In Marin County I found three eggs to be the usual set for *Ageliaius phœniceus gubernator*, while four is the usual set at Woodland, Yolo County, and I found more sets of five than three while there. I find that two and three is the usual set for *Pipilo fuscus crissalis* near this city, while four and five is the usual number for that bird in some localities less than one hundred miles from here."

If collectors could be induced to publish such facts instead of locking them up, to be found out by accident, many things would be made clear.

The Boat-tailed Grackle.

BY WALTER HOXIE, FROGMORE, S. C.

The Boat-tailed Grackle is locally known as the Jack Daw. I can find but a meagre literature on this species, which is all the excuse I have to offer for attempting to force his acquaintance upon your readers. Few birds make themselves so audaciously conspicuous at certain rugular times along our southern seaboard, and yet there are times when they seem to desert a certain locality for weeks or months at a time.

The Jack Daw may safely be called resident among the sea islands. That is to say, of course, that we are here within the overlapping portions of its verge in both migrations. It is during the first delicious spring days that this dapper looking fellow comes out strong. Away up in the top of a big live oak sits a glossy old Jack and gives full vent to his exuberent feeling. His song is very difficult to describe, Wagnerian perhaps. He chuckles loudly, cheers vociferously, then apparently applauds his own performance by clapping his bill — cheers again, and three real cheers follow, and even when he takes wing at the approach of the ardent collector he continues his strange melody. It's a jolly, rollicking, happy lay that he gives us and seems to be in exact harmony with the sunshine and breezes that raise everybody's feelings. Shy of any body? You had better believe he is. When you have sneaked almost near enough and slowly raise your gun he bobs off the limb with a loud flur-rutt-tutter-ter-ut of his wings, and the line of his flight always places some big mass of moss and foliage exactly between himself and you. And then that part of his song that comes drifting back to you sounds just as saucy as saucy can be. Perhaps he drops down by the pond edge to wet his whistle and walks about sedately for a time with his wings cleverly folded, and his tail carried level and well out of the wet. His general air is that of a sedate and meditating old party in a dress suit, with his hands under his coat tails. He seems to be thoroughly off his guard now. But just creep up behind the plum bush. His keen little yellow eye is upon you, indifferent as he seems to be, and as you disappear from his sight his suspicions are at once aroused and he ambles away around the upper end of the pond. As you peer cautiously through the leafy screen there stands your coveted specimen fully a hundred and fifty yards from any cover, and as he locates your position a series of rapturous cheers, chuckles and wing flappings anounces his satisfaction at the discovery that the threatened danger is still at a safe distance.

Very near the 10th of May the eggs are laid. Jack is sociable always, and his breeding site is selected with a view to coöperative housekeeping. A dozen or two nests are crowded in some thick clump of tall, scrubby bushes. Their height from the ground is from six to ten feet. The nest is thick, strong and deep and is constructed entirely by the female. The dudish looking gentlemen of the community divide their attention among the matrons without any regard to a selection of mates, and likewise eschew all the cares and duties of matrimony. The little rusty clad dames literally work for nothing a day and feed themselves.

Three eggs seems to be the usual number laid by an individual. Four may sometimes be deposited, but I do not consider five an "unassisted" set. In most such cases that have come under my observation three eggs have been well incubated and the other two fresh or only slightly affected. During some observations on the shape of eggs, I shot a female from the nest, and two days after found another sitting on the two eggs it had contained, together with one more which must have been her own property. The variation both in color and size of the egg is quite great. The markings and ground color in the same set will sometimes represent the extremes of variation. In shape the same may be said, and I have already recorded my observations on this point in the O. AND O., which I repeat. Eggs laid at regular intervals of time are normal in shape. When an exceptionally long time intervenes between the depositing of two eggs the last is more or less, and sometimes greatly, elongated. And from my observations this season I will add that the last egg laid in any one clutch is sometimes more nearly spherical than others. In all such cases I have noticed the shell is much thinner than that of the rest. On the other hand the elongated eggs always possess an exceptionally thick shell. The variation in cubic capacity is also greater in the Jack Daw's egg than in those of most land birds. In ten specimens the mean of all variations was 2½ per cent, while between the two extremes a difference of over 13 per cent occurred.

Before the summer heats come on the young are well fledged. The lads and lassies don no childhood's garb but wear from the start the livery which is to distinguish them in after life. The boy's jackets to be sure, are less lustrous than their papa's dress coats, and the girls can just be distinguished from their mammas; but the plumage of the two sexes never at any stage bears the least resemblance.

Meanwhile at all times old Jack makes for the centre islands and the sea islands as soon as his family are able to move with him, and hardly shows his nose beyond the influence of the freshest kind of fresh sea breezes until the first cool mornings set in; then he will be found again on the top of the same old oak giving us a weak rehearsal of his spring time production.

In his relations to agriculture the Boat-tailed Grackle may probably be claimed as useful, although he does some slight damage to corn and early peas. His food while in the cultivated fields is mainly of an animal nature. With a powerful bill and great curiosity to back it he must destroy many grubs and insects. Still the bulk of his sustenance is obtained from the marsh and coast side.

One point must have struck every taxidermist who has ever skinned a Jack Daw. The head of the old male is fearfully tough; the skin slips readily over the skulls of females and young males, but once get hold of a real old patriarch — a magnificent specimen — and you have got your work cut out. Every thing goes on serenely right up to the back of the skull, and then comes the tug; patience and care will bring the skin over all right, but a "busted" head is frequently found on a collector's first Jack Daw.

Number of Eggs in a Set.

BY C. S. BRIMLEY, RALEIGH, N. C.

Seeing this subject discussed in the August O. AND O. by Mr. Hoxie, I give some experiences of my own on the subject, as being possibly of some interest.

First, as to the number of eggs varying with the habitat, I find that several species in this locality lay less than the usual number, as follows:

Wood Thrush (*Hylocichla mustelina*), usual number four; at least one-third of the incubated sets in this locality consist of three only, and in 1886 I found a complete set of only two (incubated), but in this case the eggs were much larger than usual. Abundant.

Catbird (*Galeoscoptes carolinensis*), usual number four, never more; about one-fourth of the sets or more only three. Abundant.

Brown Thrasher (*Harporhynchus rufus*), usual number three, occasionally four; rather scarce in the breeding season.

Carolina Wren (*Thryothorus ludovicianus*), five appears to be the usual number in this locality. Common.

Yellow-breasted Chat (*Icteria virens*), usual number to a set four, but sets of three are quite comonly found. Common.

Field Sparrow (*Spizella pusilla*), usual number four; this year nearly every nest I have examined contained only three eggs or young, and only one set of four was taken. Usually four is the rule, three the exception.

Secondly, why should birds nesting in holes frequently lay a comparatively large number of eggs, as for instance the Great-crested Flycatcher (*Myrarchus crinitus*), which lay five or six as a rule in this locality, while its relatives, the Bee Martin (*Tyrannus carolinensis*) and Wood Pewee (*Contopus virens*) only lay three or four at the most. The Vireos, Nuthatches and Titmice will also present themselves as examples of the same fact.

The Wood Ibis in Western Kentucky.

BY L. O. PINDAR.

I was much interested in Mr. Hoxie's notes on the above bird, and decided to give my experience on the species. And first, I will say that I will not try to describe its habits as Mr. Hoxie has so ably done so. I could only repeat what he has already given. I never saw the birds till this year, and it was early in the morning, July 15th, that I noticed a number of white birds on Island No. 6, opposite Hickman. They were about three quarters of a mile off, and a boy with me said they were Pelicans. But in the afternoon I found them at a little pond not a mile from town and not three hundred yards from a sawmill. In fact, they were not at all suspicious, alighting within a stone's throw of a couple of wood-choppers several times and not seemingly alarmed in the least. Upon finding them here I hurried home after my gun, and on returning found one on the highest limb of a cypress tree. As I raised my gun he raised his wings to fly away, but the bright sight of the gun was already showing against his breast, and a movement of my finger on the trigger ended his sojourn on earth forever.

My specimen proved to be a fine old male. When I picked him up at least twenty fishes two to three inches long dropped out of his mouth. It was so very hot I was prevented from preserving the specimen entire, but his wing that once carried him far above the reach of men with their death-dealing weapons hangs over my desk as I write, and I wish that it might tell me the story of its wanderings from its nest in a southern swamp to an ornithologist's study.

There were probably two hundred and fifty Ibises in the flock, and also about thirty Snowy Herons, making quite a tropical scene. The next day I went to the pond again but there were only about fifty Ibises and perhaps half a dozen Herons.

On July 19th I went again but the pond was deserted, save for the Purple Grackles who seemed to be chanting a death dirge for the slain; for the negroes seeing an easy way to get a dinner, and the fisherman seeing that the large birds would be good to bait nets, had invaded their ranks with seemingly every murderous implement known to man and spread destruction on every side. Go there now and see the white feathers on every side, silent witnesses of the campaign going on against the feathered tribes from one ocean to another.

On August 7th I saw about fifty Ibises on the island but these soon left and only the remains of their murdered comrades are left to tell the sad story.

Our New England Raptores; The Number of Eggs in a set.

BY FREDERIC H. CARPENTER.

The numerical quantity of a set of *Raptores* eggs has of late drawn out considerable discussion, but no more than the importance of the subject demanded. At the suggestion of a friend, I began, over a year ago, to collect data from various sources, relative to this question. Numerous replies were received, but sufficient information was not received from the west to correctly judge of that extensive locality and the prolificness of its rapacious birds.

It is simply impossible to acknowledge the assistance which I received in New England: suffice to say that without it I could have arrived at no results whatever, and to each individual I can but repeat my thanks, as privately expressed ere this.

I regret that dry statistical tables has been deemed the best form in which to present the accumulated data. The entire six New England States are represented, and it was a noteworthy fact that geographical range had no visible effect upon the size of the sets, thereby not necessitating any consideration of that influence.

With the assistance of kind friends I hope that the investigation can be continued with the western varieties. No reference has been made to published records and all evidence offered is direct from the collectors, covering a period of many years; one gentleman sending a record of twelve years observation. Full complete sets are only recorded.

Marsh Hawk, (*Circus hudsonius*).
18 sets of 3
48 " " 4
67 " " 5
11 " " 6

Sharp-shinned Hawk, (*Accipiter velox*).
94 sets of 4
37 " " 5

Cooper's Hawk, (*Accipiter cooperi*).
112 sets of 4
57 " " 5
17 " " 6

Red-tailed Hawk, (*Buteo borealis*).
42 sets of 2
63 " " 3

Red-shouldered Hawk, (*Buteo lineatus*).
104 sets of 2
393 " " 3
84 " " 4
9 " " 5

Broad-winged Hawk, (*Buteo latissimus*)
13 sets of 2
4 " " 3

Bald Eagle, (*Haliœtus leucocephalus*).
18 sets of 3

Duck Hawk, (*Falco peregrinus nœvius*).
2 sets of 2
2 " " 4

Pigeon Hawk, (*Falco columbarius*).
1 set of 4

Sparrow Hawk, (*Falco sparverius*).
14 sets of 4
11 " " 5

Osprey, (*Pandion haliaëtus carolinensis*).
7 sets of 1
47 " " 2
236 " " 3
4 " " 4

Long-eared Owl, (*Asio wilsonianus*).
1 set of 3
4 " " 4
1 " " 5

Short-eared Owl, (*Asio accipitrinus*).
4 sets of 5

Barred Owl, (*Syrnium neulosbum*).
24 sets of 2
19 " " 3

Screech Owl, (*Megascops asio*).
27 sets of 4

Great-horned Owl, (*Bubo virgianus*).
34 sets of 2

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Additional Notes on the Nesting of the Ground Dove.

BY T. D. PERRY, SAVANNAH, GEORGIA.

In the O. AND O. for July, 1887, my article on the Ground Dove claims that their breeding period covers a long period, and on its appearance in print I was somewhat surprised to see that it only calls for April, May, June and July. But mistakes will happen, and so it was with that article; I was fully under the impression that I had sent all the notes, but it seems not, so as a supplementary note I offer the following:

In the O. AND O. for October, 1886, a case is reported of the finding of a nest with young on October 10th, and it is stated that it is something remarkable, as they never breed later than June. Now I think I can prove that eight months out of the twelve is nothing unusual for this species.

In the *Young Ornithologist* I reported the finding of a nest with young on October 10th, 1885. The nest was found by Mr. George Noble.

In the *Young Oölogist* for May, 1884, I reported the finding of a nest on August 31st, with one fresh egg and I have no doubt but the other would have been laid next day (Sep. 1st).

In the same monthly, Vol. 1, No. 6, page 87, a case is reported of the finding of a nest on Sep. 11th. (Eggs incubated).

Now including the dates I gave in my previous article, that makes seven consecutive months and by good luck I am able to give one month more.

In March, 1887, Mr. George Noble, (to whom the credit of finding the earliest and the latest is due) and I went for a short stroll. He called out for me to come to him as he wanted to show me something. I went and he showed me two fresh eggs of the Ground Dove, and this was on March 17th, 1887. This makes eight months out of the twelve, and I believe that they breed every month that the Common Pigeon does, and some day I hope to be able to prove this.

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The Number of Eggs in a Set.

BY LYNDS JONES, GRINNELL, IOWA.

Walter Hoxie's "The number of Eggs in a Set," in the August number of the O. AND O. touches upon a subject which has hitherto received too little attention at the hands of the majority of oölogists.

But little reliance can be placed upon the works of eastern writers upon the subject, as the nest complement of many species in this section varies greatly with the nest complement of the same species farther east. Take the Yellow-billed Cuckoo, (*Coccyzus americanus*) as an instance. Audubon placed the number of eggs in a set up to *eleven*, and authors of the present day go as high as seven or eight. Here in Iowa, I have collected many sets, and watched carefully the process of breeding from the beginning of the nest until the abandonment by the young, and never have I found more than three eggs in a nest, and three only once. Further than this, the young burst the shell at the same time, showing even though the nest had not been closely watched while the mother bird was laying, that the eggs were not laid at long intervals, as is the case in the east.

The nest complement of the Long-eared Owl, (*Asio accipitrinus*) is four, seldom more, say eastern observers; five is the common set here, and six are more often found than four. The same might apply to the Screech Owl (*Scops asio*).

The food supply, as Mr. Hoxie suggests, certainly governs, to a great extent, the number of eggs in the clutch. The years from 1880 to 1885 were unusually wet years and consequently food was abundant. During these years sets of five of Robin, (*Merula migratoria*) and seven of Bluebird, (*Sialia sialis*) were not uncommon, and in the nests of a great many species whose nest complement is usually four, as the Chat (*Icteria virens*), Kingbird (*Tyrannus carolinen-*

sis), Maryland Yellow-throat (*Geothlypis trichas*) and many others, five eggs were found, while the last year or two has been very dry and it has been difficult to secure even common sets.

The nest complement varies also with the time of year. One would hardly expect as large a set of the earlier breeders in July as in April or May.

Thus it appears that a work which should be the standard for the whole field, must be comprehensive enough to include in its sweep the utmost frontiers of oölogy. Such works I trust will not be long wanting.

Hybrid Ducks.

BY WM. G. SMITH, LOVELAND, COLO.

I have killed two hybrid Ducks this last spring, one a beautiful male bird. Colors and size about equally divided between a Gadwall, (*Chaulelasmus streperus*) and the Baldpate, (*Mareca americana*). Also a male specimen of Teal; the whole body color of Cinnamon Teal, (*Querquedula cyanoptera*) with the head the color and showing the white cheek marks distinctly of the Blue-wing, (*Querquedula discors*). I also killed two specimens of Gadwall with a distinct black ring around the neck. They were male and female and were together. It may be that they carry such plumage some portion of the year, but of the hundreds that I have killed I never saw them in that dress before. I have the male, which with the hybrids I will freely loan to any scientific association that would like to examine them.

I have also killed recently a very fine Albino Mallard drake, a light cream color throughout.

Our ducks appear to be getting badly mixed up, but then we are not far from Salt Lake City, where wonders never cease.

Nesting of the Yellow-Throated Warbler.

BY ARTHUR T. WAYNE, CHARLESTON, S. C.

This beautiful Warbler (*Dendroica dominica*) is one of my earliest bird acquaintances, being found near Charleston the whole year. It is a permanent resident, and I have seen them when the thermometer only marked 10° above zero. They inhabit mixed woods, where there is an abundance of moss (*Tillandsia usneoides*). In fact, where the moss is wanting you will rarely see them. I should not call them Swamp Warblers, but have time and again shot them in very dense swamps.

I have long known that this Warbler was a very early breeder, as I have taken the young flying about as early as April 22nd, but was unable to find their eggs until last Spring (1887). I knew that they nested in the hanging moss, but one may as well hunt for a "needle in a haystack," as to hunt for the nest of this bird in moss hanging down from live oak trees six to ten feet, and from two to three feet through. I determined to spend a month, however, if necessary, to find the nest of this bird, and concluded that the best way would be to watch the birds. After many days of following the birds, I was so fortunate as to find the first nest.

On April 10th I was watching a pair of the birds in question. About mid-day the male was singing with great fervor, and his mate was very busy feeding, flying from one piece of moss to another. I knew she had come directly from the nest, as she was very restless. I therefore watched her very attentively. She kept on feeding for about five minutes, and I then saw her fly to a large mass of moss (*usnea*) and I hastened to the spot to see if she was still feeding, or if it was her nest. Upon reaching the spot, I could not see her, so I resolved immediately to climb the tree, and such a climb! When I reached the spot where I saw her fly to, I looked carefully for the nest, and shook the limb, but she did not come from her charge. I was about to come down the tree, when I thought I would take a last look. Upon examining the moss, she flew out—quite to my surprise—and began to chirp. The nest was built in the moss, and was completely hidden under a large limb, about thirty feet from the ground, and in a live oak tree. The nest was made of the flowery part of the moss, with fine pieces of grass, and lined profusely with feathers. The nest is very symmetrical—with well defined sides, and was built in the moss, resting on a bed of the same. The eggs were five in number, three were on the point of hatching, and the other two were addled. The ground color is a dirty, or bluish white, spotted and blotched with lilac, pale brown, and neutral tints, gathering at the larger end in a wreath, with confluent blotches, leaving the smaller end spotted with minute specks. Unfortunately one of the eggs was broken in blowing, as the young were very large. I shot the female, thus rendering identification absolute. These eggs were laid about March 31st, as the young were on the point of hatching.

My second nest was taken April 26th. I saw the birds when they commenced to build it. It was built in a bunch of moss, and made of essentially the same materials as the last, and was about thirty feet from the ground, in a live oak tree.

The eggs in this set are four in number, and were perfectly fresh. They are an exquisite set, being beautifully spotted with lilac, bright red, and different shades of brown, around the larger end, in a large wreath, upon a white, or creamy white ground. They are very much pointed, and in shape resemble the eggs of certain Waders.

Published accounts are so rare as regards the breeding of this Warbler, that I thought the foregoing would be of interest to oölogists. I only know of six sets of eggs of this Warbler in collections.

The Number of Eggs in a Set.

BY F. L. BURNS, BERWYN, PENN.

Having read from time to time in the O. AND O. the opinion of many collectors on this subject, I venture to give my limited experience in this line. I commenced collecting in 1885, and for a time was "cheated" out of many sets, especially of our most common birds, by waiting for the female to lay the number of eggs "bird doctors" stated they did lay. In the mean time the eggs would hatch, or be so hard set as to be worthless. Many young collectors complain of this, and now some take the eggs as soon as found, complete set or not, claiming that this is the only sure way.

For instance, the Wood Thrush, (*Hylocichla mustelina*) lays three more often than four eggs, and I have yet to find a set of five; and yet most writers claim the usual set to be four or five eggs.

Of forty eggs and young of this species found by me the past season, I find to be divided in sets as follows:

Sets of 2	2
" " 3	8
" " 4	3

In all eggs incubation had commenced, in many cases advanced.

The first set was taken May 30th, the last set July 4th, but the majority were taken during the first week in June.

A Word of Caution.

BY J. P. N.

The attention of the present writer has recently been called to the fact that certain parties have lately been offering for sale some very rare species of eggs at prices which would seem to indicate that the eggs they advertise cannot be genuine — or at least that they must be closely allied European species not distinguishable from those they are represented to be.

Thus when we hear of sets of eggs of the Golden-crowned Kinglet, (*Regulus satrapa*) being offered at forty-five cents per egg; sets of American Rough-legged Hawk, (*Archibuteo lagopus sancti-johannis*) at forty cents per egg; sets of Brown Creeper, (*Certhia familiaris rufa*) at thirty-five cents per egg, and sets of *American Peregrine Falcon*, (*Falco peregrinus nævius*) at one dollar and forty cents per egg, besides many other very rare species at equally ridiculous prices, it is time to warn our readers that if they buy them they run a very strong chance of being imposed upon. Genuine eggs of those species are worth *far more*, and are not to be picked up every day either.

Brief Shore Bird Notes.

BY JOHN C. CAHOON.

Our early flight of adult Sanderlings, Red-breasted Snipe, Red-breasted Sandpipers and Black-bellied Plovers occurred at about the same time as the last season's one, but was very light; in fact the absence of all kinds of shore birds has been very noticeable. The south-east storms of the last two weeks have increased the few scattering Black-bellied Plovers into several good-sized flocks, mostly young, also several small bunches of Great Yellow-legs and Golden Plovers.

Pectoral and Bonaparte's Sandpiper have not put in an appearance as yet. A few young Sanderling just arriving, also young Red-backed Sandpipers. I have never seen an adult Red-backed Sandpiper in the fall.

Yesterday I saw several large flocks of Black-bellied Plover on the beach at high tide.

At present writing to-day, it has been stormy with thick fog and the number of shore birds is greatly increased. I saw first Black Tern (young) of the season to-night, some dozen in number.

Monomoy Island, Cape Cod, Aug. 25, 1887.

Nesting of the Pine-creeping Warbler.

BY R. B. MCLAUGHLIN, STATESVILLE, N. C.

The Pine-creeping Warbler, (*Dendrœca pinus*) is not uncommon with us throughout the year. Its nest is rather difficult to find and the only way to have satisfactory results is by watching the bird go to it when building. It usually builds sooner than the collector would suspect; so when he climbs up to its nest the chances are he is greeted by open mouths. I have seen its nest filled with snow, and at times surrounded by icicles. Referring to my note-book for the last season, I observe that I found my first two nests on March 16th; the one nearly completed, the other well begun; and took first set of four eggs on March 25th, incubation having commenced. The individuality of the eggs comprising this set is so marked that I am confident I have found the nest of this pair of birds in the piece of pines in which it was taken for several seasons.

The male is generally close by where the female is building, giving vent to a song which, though louder, is not at all unlike that of *Spizella domestica* and often have my steps been quickened by the song of the latter; in truth, such happens each year. I have never seen the male feeding his mate on the nest, though I have often watched him. To compensate for this, however, I am quite sure that he takes part in incubation, taking the female's place about noon. I have often called at the nest early in the afternoon and as late as sunset, and invariably found him seated upon it.

In this section the nest is usually placed on a horizontal limb thirty — but varying from eight to sixty — feet from the ground. The outer portion consists of long thin strips of bark from grape vines, bits of dead weeds and the stems of dry oak leaves, intermixed with a very fine silken web or cocoon which the bird gathers from openings in the pine bark; web of the caterpillar is also often used. It lines freely with feathers, using a respectable quantity of horse-hair and dead tops of sedge also. The bottom consists mostly of feathers, and on the whole the nest is quite warm and neatly built. The nest complement is found occasionally three, and in three or four nests I have seen five. The eggs are white with a bluish or purplish tinge, spotted with purple, brown and black — the spots are not infrequently of a reddish brown — and when so, I have found the ground color white, the bluish or purplish tinge entirely wanting. Notwithstanding the variation to which the egg is subject, I have seen no other which a dishonest collector could palm off for it.

If the bird is successful in rearing one brood, I do not think it attempts a second, but when disturbed in any way will build three times or perhaps oftener, in a season. I have never found it breeding, and seldom feeding, outside of pine timber.

◆

Nesting of the Yellow-throated Warbler.

BY R. B. MCLAUGHLIN, STATESVILLE, N. C.

The Yellow-throated Warbler, (*Dendrœca dominica*) first came under my observation on April 9th, 1887. I was out in search of nests of the Pileated Woodpecker and had entered a small tract of primitive woods consisting mostly of oaks interspersed with a very large species of pine, usually called "lumber" pine here, to contra-distinguish it from a smaller variety which is found on the barrens. These pines with their lofty trunks rugged and bare, and their limbs all clustering around in a circle near their tops, which waved majestically twenty or thirty feet above the surrounding timber, were strikingly picturesque and formed the most conspicuous feature of the landscape. From the tops of these pines came the peculiar song of a bird entirely new to me, and though I thought it a migrant, which were then plentiful, some unknown to me, yet I became so much interested in the song that I decided to shoot one of the birds for identification.

I *think* the pines were from a hundred and ten to a hundred and twenty-five feet high, and the birds had a preference for the top which was very decided, and on leaving one pine flew to another, never seeming to feed in the other trees, though I saw a savage fight between two males in the top of an oak. Judging from their songs, there were about eight males in all which were well scattered over the piece of woodland, and I guess I gave about all of them a call, but found them so high that it was useless to do anything but hold my powder. I suppose the females were arriving since a fight ensued whenever the males met; at any rate, I saw four. I returned a week or more later with murderous intentions and found them still in the tops of the pines, but after some ineffective shooting, killed one, which Dr. A. K. Fisher very kindly identified for me.

The birds lingered so long that it was evident they were preparing to breed and I was becoming more interested, and though seemingly useless, could not resist a desire to search for their nests. I visited the colony with that intention, about the last of April, and finding the warblers in the highest pines only, naturally concluded their nests could not be elsewhere. It was most impossible that so small a nest could be seen from below, and in case it could, there was a trunk between it and the ground that I did not care to scale; indeed my enthusiasm was so diminished that I was not sure I wanted to see a nest, so I left without any intention of returning, though I knew little or nothing was known of the nesting habits of the bird.

About the middle of May, while passing a body of pines of the lesser variety, I heard the peculiar song of *D. dominica* and thinking a pair had wandered from the others, I hastened to the spot whence it came, but when there heard the voice near a creek a short distance away; so supposing the bird was straying about feeding, I passed on. I heard the song on several occasions afterward, however, and was convinced that the pair was breeding, but did not have time to investigate.

On June 4th I decided to follow the birds until one should go to its nest, though I expected to find them feeding young. On nearing the pines I heard the song of the male exactly where I heard it first, some weeks before. Guided by this, I found him high in a pine, his mouth then well filled, though this seemed no obstacle to his song which was uttered at regular intervals. I was expecting every moment to see him leave for the nest, but he continued to fly from tree to tree gathering more food, scanning the limbs to the end, climbing out on the tips of the needle-shaped leaves and looking over, head downward. When the game flew, he took it in very quickly, after the fashion of the Fly-catchers. Even in the smaller pines he evinced his disposition to feed near the top. I was astonished to see this bird descend from a height of sixty feet and alight by his nest in a small pine near me. After the height at which I had always seen him, there was his nest only nineteen feet from the ground! Not a note passed and my hopes ran high, thinking I had caught him feeding his mate on her nest. It is useless to say I clambered up; I could not stay away. The nest contained three birds, quite young and one egg containing no embryo, which made a very nice specimen.

The nest was not pensile, as claimed by Nuttall, but built closely to the main body of the tree, the bottom part resting on a short dead stick. It does not contain a sprig of moss nor a lichen as described by Audubon, but resembles closely that of the Pine Warbler, which I hope will be described later, being about half as large and is composed outwardly of about the same materials, yet somewhat finer in quality, and is lined with a quantity of horse-hair instead of feathers. It has one prominent feature, however, and there is some attempt at weaving. I was surprised to see a nest so warm and compact at that time, so far south. I did not see the mother bird but shot her mate which went with the nest and egg to the U. S. National Museum. The egg is white rather heavily spotted with brown.

Notes on Some Birds of Grand Manan.

EDITED BY F. H. CARPENTER.

Leach's Petrel, (*Oceanodroma leucorhoa*). This species we found breeding by thousands on Wood's and the White Horse Islands. A few pairs remain on Low Duck. The island of the White Horse is completely honey-combed, as are tracts on Wood's by their burrows which extend from seven or eight inches to two feet in length, taking all sorts of courses and often crossing and bisecting the passage of other pairs. The consistency of the loam is a damp fertile mold which enables the bird not only to excavate without difficulty but renders the burrows proof against cave-ins from a natural cause. At the end of the burrow is a thin lining of dry reeds, straw or twigs on which the single egg is placed. We usually made an entrance by running in the arm to the elbow and then raising up and the nest was usually reached by the second time if not the first, though in a few cases we were obliged to work some time, often running off the scent into deserted cavities ere we struck the right one. The birds when set free by a starting toss into the air took a direct course out over the water and were soon out of sight, but if not thus aided they waddled about in the grass trying to hide their heads in a very stupid manner.

The eggs are exceedingly brittle and require a month's sitting to hatch. The young are fed during the night, and though the parents swarm forth by thousands at this time in search of food for their progeny, they never seemed to mistake their home for that of another on their return; still to the human eye their burrows are as similar to each other as the borings of an auger and it seemed hardly possible that distinction could be made. The tracts inhabited are permeated with the odor of the birds which can be felt by delicate olfactory nerves a long way out to sea.

Yellow-bellied Flycatcher, (*Empidonax flaviventris*). We had but little experience with this shy denizen of the swampy and sparsely timbered sections. Although not rare they are seldom met with, being especially retiring at the time of our visit. We did not meet with them above Nantucket; Ross and the lower maine island offer more attraction for their nidification. The nest is placed upon the ground, preferably cupped into some mossy mound or securely hidden away in the undergrowth. The eggs are too well known to need any description here.

Spotted Sandpiper, (*Actitis macularia*). The "Peeters" are about the only representitives of this family at present found breeding on the island, though there may be a very few Ring necks left it is extremely doubtful, as they have been obliged to seek safer homes, from the incursions of the voracious foxes. The distance to certain of the outlying islands is so short at ebb tide that the foxes have gained access to them, and thus not only have the ground breeders of the main suffered, but those on the pregnable islands, owing to the limited area, are depopulated to even a greater extent, and the former breeding grounds of the Ring necks are destroyed. The nidification of the Sandpiper does not differ from the same in southern New England.

Chas. H. Andros.

White-throated Sparrow, (*Zonotrichia albicollis*). This species was more conspicuous than actually abundant, and its ringing note, a combination between a whistle and a song was very frequently heard at all hours of the day. A nest was found by Mr. F. W. Andros at Eastport, Maine on the afternoon of our arrival at that place. The nest was placed on the ground under some slight dead underbrush, on a rocky ledge. The birds evinced considerable alarm and flew uneasily about, uttering their loud metalic *chink*. This set numbered four, and was very uniform in color. At Grand Manan they were heard on every hand, but as previously stated, in no great numbers. They were, however, about the only bird which was evenly distributed over the entire area of the island, being heard and seen in all portions.

Another nest of this Sparrow, which we found when in company with Mr. Cheney, differed in many particulars from the preceding account of the Eastport one. This latter nest was on the ground in a small clearing in a large swamp, and the bird was detected in slyly and swiftly running from the nest, and very contrary to its usual habits, no exhibition of concern on the part of the parent was given, and no bird was seen after leaving the nest. To judge of actions of this species, from the two extremes above given, needs broad experience.

F. H. Carpenter.

The Number of Eggs in a Set of Certain Species.

BY HON. JOHN N. CLARK, SAYBROOK, CONN.

Samuels in his *Birds of New England* tells that the King Bird, (*Tyrannus carolinensis*) usually lays five eggs to the set, and Minot's *Land and Game Birds* says four or five eggs constitute a set. Now the bird is one of our most abundant species, nesting in great numbers in every orchard, and I have been watching for the past five years every nest that came under my observation—and that not a few—to get a full set without having been able in all that time to secure a single one with either of these numbers.

The birds are not at all shy, building right in my yard. One placed its nest in a small peach tree, within a few feet of the Bee house, where it could secure a breakfast without much exertion, and where I could stand on the ground and put my hand in it; and a large portion of the nests I have observed were equally convenient of access. I remember but one that overreached me and his security was based on his "cheek," for I slay them with little mercy when they gather around my apiary. This nest was in the eve trough directly over the kitchen door, and there he successfully reared his brood in the face of many dangers, chatting defiance at me as I popped in and out, my ladder being a little too short.

In this time I have climbed to numbers of promising nests to find the completed sets numbering never to exceed three and frequently but two. I will not say that I never found four, but think I have rarely done so, and five absolutely never. Two-thirds of these observed in the above period have contained three eggs when complete and the remainder complete with only two.

There is a sort of uniformity about most species in the numbers of completed sets, and variation is an exception, and in view of my last five year's experience I should consider five or even four in a Kingbird's nest an exception instead of usual. A completed set of Wood Thrush, (*Hylocichla mustelina*) is sure to number four, yet I once found five, and probably as often three would prevail. In the case of the Catbird, (*Galeoscoptes carolinensis*) how uniformly does four complete her set. An excess has only once been presented to me, when on May the 17th last, I found a nest containing five; and three eggs is as equally rare.

The size of the eggs I have observed is usually affected to a greater or less extent by the number in a set. The common Red-shouldered Blackbird, (*Agelaius phœniceus*) almost invariably deposits its four, but I observed a rare exception last spring. Near the salt meadows in a patch of bushes were several nests easy of access, and from one I took a pretty set of six, which were very small in size; and but a few feet away was another nest with only three. Both sets were incubated, showing them to be complete, and I should really think that the three in one nest would weigh nearly as much as the six in another — the former being as much larger than the average as the latter were smaller.

All of these points while bearing us important scientific value, are full of interest to the collector and show the value of a collection made in series to exhibit the extremes of variation found in eggs of the same species. This is a very prolific subject, there are so many causes to which variation may be attributed, such as the weather, greater or less abundance of food and the lap of previous nests; but I fear I have followed the subject further than readers will be willing to follow me, and will perhaps rather abruptly close.

A Saw-whet Owl's Nest.

As the nest of this bird (*Nyctale acadica*) is quite rare, I will describe one which I found this season, thinking it may interest some of the readers of the O. and O. The 16th of May found me in a large tract of woods hunting for a nest of a pair of Pileated Woodpeckers which I knew were breeding in the vicinity. Although I was unsuccessful in finding what I was particularly in search of, I stumbled upon a nest which pleased me far more.

Out of curiosity I visited a stub from which a set of Pileated Woodpecker's eggs were taken two years ago. The large round hole from which the eggs had been taken was visible at some distance, and after passing behind some trees I was much surprised to see this hole filled with some grey substance. Upon a nearer approach I discovered this grey substance to be the head of a Saw-whet Owl. I rapped on the stub and shouted to drive her from the nest but she only sat there and stared, evidently at a loss to determine what sort of an animal I was.

Finding that I could not frighten the bird from the nest, I stripped off my coat and prepared to "shin" the tree. This proved to be no easy task as the tree was two feet in diameter and the nest was fifteen feet from the ground and there was not a branch on it. As soon as I began to ascend the tree the owl flew off and lit in another tree about fifteen feet distant, from where she silently watched me. After considerable hard work I reached the hole and was delighted to find five eggs at the bottom of it. The hole was about a foot and a half deep, and was lined with a few feathers. I could not tell whether these were owl's feathers or the feathers of some of its victims. I could not reach into the hole with my coat on and could not carry my collecting box without it, so I had to bring the eggs down one at a time in my mouth. The eggs were chalky white in color, though pretty dirty, and were quite fresh. They measure about 1.20 x .92.

Nesting of the Louisiana Water Thrush.

BY R. B. McLAUGHLIN, STATESVILLE, N. C.

The Louisiana, or Large-billed Water Thrush (*Siurus motacilla*) is a common summer visitant in western north Carolina, arriving regularly between the 25th and 30th of March, and it begins to nest usually about the 10th of April. When feeding it frequents the larger water courses but for nidification prefers the smaller ones flowing into them.

Fancy a small clear stream flowing through dense woods and over a pebbly or stony bed, the banks green with moss and fern and overhung by wild honey-suckle and laurel bushes. Such is the one selected by the Water Thrush as a nesting site, and after a short journey down stream it has access to the marshes which afford it ample feeding ground, and thus it is that it gains all of the advantages of the larger streams without any of the disadvantages, not the least of which is inundation. When we wish a set of its eggs we enter the channel of the stream where it unites with the larger one and wend our way up, scrutinizing each bunch of dead leaves lodged in the bank as we go. It seems nice at first, dodging from side to side, but we tire, unquestionably. Here we meet with a fallen log which we climb over, and here another lying idly across the channel, which we crawl under. Innocent looking logs, these — we would never know they are loaded with chigres; but alas, we will!

As we pass on the moccasin coiled on the limb overhanging the water, and somewhat higher than our heads, treats our approach with the coldest indifference, but as we draw nearer it slides off all at once within a foot or so of our face, just in time to wriggle at our feet. This is an odd trait that it never tires of, but we do and this is why we are provided with a club instead of a chestnut bell. After paying it our compliments in a satisfactory manner we keep the even tenor of our way. We have hitherto given the banks the whole of our attention but now it is divided between them and the over-hanging branches. We are now well up the stream and see a Water Thrush fly from its nest, make a dip downward, allowing its breast to barely skim over the surface of the water, then dropping its wings run fluttering along on the sand.

We turn our attention to the nest If typical, we cannot see the eggs nor the inside of the nest which are concealed by the over-hanging bank when we are standing upright, but we see the lower portion and the whole is supported by a root which has been exposed by the action of the water.

Now I shall try to describe the nest. It is usually placed from a foot to two and a half feet above the water. The bottom part consists wholly of dead leaves pasted together with mud. The mud is not so plentiful as it is in the nests of the Wood Thrush (*Hylocichla mustelina*) and Robin (*Merula migratoria*); in fact, none appears to be used except such as adheres to the leaves as they are gathered from the swamp. Inside of this are finer, dryer leaves, followed by rootlets, grasses and at times some hair, which constitute the lining. I meet with no other nest so cleverly assimilated to its surroundings. The nests of *Polioptila caerulea* and *Trochilus colubris* so nicely stuccoed with gray lichens, doubtless resembles knots and are not easily discerned by the novice, yet the experienced eye detects the difference by a glance, even from a distance; but it is not ever thus with the nest of the Louisiana Water Thrush. Dead leaves dripping still with water from the marsh are spread around the nest and there allowed to dry, giving it the appearance of a lump of leaves washed out by high water, and I challenge the adept oölogist to discriminate between them at all times. He may often, yet at times it requires a nice distinction that simply cannot be made. He may take leaves to be the nest or think the nest leaves. I once found a nest behind a bunch of fern the leaves of which hung down and hid it completely from view, while the bird's head stuck out between. All of the nests I have seen were over running water, except one which was on the side of a hill that terminated abruptly in a marsh. It was placed about two feet above stagnant water.

The nest complement is four or five, mostly five. The egg varies greatly in size as well as markings. It is white spotted generally with brown, with lavender sub-markings. It is well to allow the set to be completed before finding. Last season I found four nests containing one egg and all were afterwards forsaken; also found five unfinished nests, two of which were completed and three abandoned. Have had similar luck in other seasons.

The Water Thrush is quick in its every movement and seems to be in motion almost incessantly. When on the wing it generally follows channel of the stream in all its windings, keeping almost even with the top of the banks. At times it may be seen crossing from one stream to another, always flying low and gone in an instant. The experience of collectors who have met with it in different parts of its habitat may be somewhat at variance with mine, but I have attempted a description of its nesting and some of the characteristics of the bird as I have come in contact with them from field experience irrespective of all others.

Curious Nest and Eggs of a Crow.

BY FRANK L. BURNS, BERWYN, PA.

On the afternoon of the 29th of May, 1887, while walking through the woods between Berwyn and Devon, and not far from a small sheet of water known as "Devon Lake," five or six crows flew directly over my head, making an incessant clatter. And soon, while approaching a thicket of green briers, saplings, etc., a female crow flew out and up. In a small beech tree, about twelve feet up, and far out on a slender branch, I espied a frail looking nest, very much like that of a Cuckoo's, only larger. Climbing up, and carefully working my way out, with the aid of several higher limbs, I reached the nest. Three young—just hatched—and two eggs were the contents. The nest was nothing but a platform of twigs, no lining being visible. The eggs were of the usual size, of a light blue color, and spotless; in fact the same shade as those of a Yellow-billed Cuckoo. Under the tree I found six half-shells, which corresponded with those in the nest in size and color.

I believe this to be the second, possibly the third set of eggs deposited by this bird this season. The former nest, or nests, having probably been disturbed, and the eggs taken by some of our enterprising collectors.

The Connecticut Warbler in Conn.

BY H. W. FLINT, NEW HAVEN, CONN.

The past season (fall 1887) has been exceptionally productive, having furnished me with a species of Warbler "new" to my collection, viz: *Oporornis agilis*. I have secured two specimens this fall and a friend of mine shot a fine male while we were collecting on the afternoon of Sept. 26. Also had the pleasure of taking on Sept. 24th an adult male Tennessee Warbler. Have found this species but once before (May 22nd, 1878) and my experience of about fifteen years active collecting would justify the remark, "very rare" as applied to this bird.

With the exception of the Cape May, I have now collected all the Warblers that can be said to occur regularly in Connecticut, including two fine specimens of *Hel. Leucobronchialis* taken several years ago, and hope to add the missing one ere long.

◆

Mr. Josiah Hoopes, of West Chester, Penn., has been fortunate, lately, in being able to add to his fine collection of eggs large sets of three species of Kites. Of both the Swallow-tailed Kite, (*Elanoides forficatus*) and the Mississippi Kite, (*Ictinia subcærulea*) he has obtained sets of three eggs, collected by J. A. Singley in Texas; while of the White-tailed Kite, (*Elanus glaucus*) he has secured the set of five, formerly in the collection of Harry G. Parker, which has unfortunately been scattered to the four winds.

J. P. N.

Publications Received.

Ridgway's Manual of North American Birds has been received from the publishers, Messrs. J. B. Lippincott Co. of Philadelphia. It is a volume of 630 pages, erratically margined, printed in brevier, in body text on fair quality book paper. Its index is not as complete or available as a little more care would have made it. One hundred and twenty-two full page outline plates on fine heavy finish paper, give creditable aid in the description of nearly all the species mentioned in text.

The literary work of the author scarcely needs comment. This volume shows his best effort spurred by a laudable endeavor to show respect for his late associate whose excellent likeness serves as a frontispiece.

Following the A. O. U. classification the work presents in that order a list of all our known North American birds and in addition a brief description of the eggs of each genus. The description of the characters of each genus and the more minute individual particulars is conducted in a style rather more technical than necessary. In certain portions it almost needs an elementary preface that it may be comprehended by a large class of readers. The correctness of its descriptions is commendable and for that alone the book should not suffer by criticism.

The foot notes to the text are none too frequent, and ably assist with ready explanation of otherwise doubtful assertions or references.

F. H. C.

Coue's Key to North American Birds. This long promised third edition has at last been issued. It is a verbatim reprint of the second edition with an appendix of thirty pages, "exhibiting the nomenclature of the American Ornithologist's Union check-list in comparison with that of the Key, and including descriptions of additional species, etc." In our opinion this well known work presents the best description of our North American birds to date and it should not suffer by its non-conformity to the A. O. U. code in the body of text.

F. H. C.

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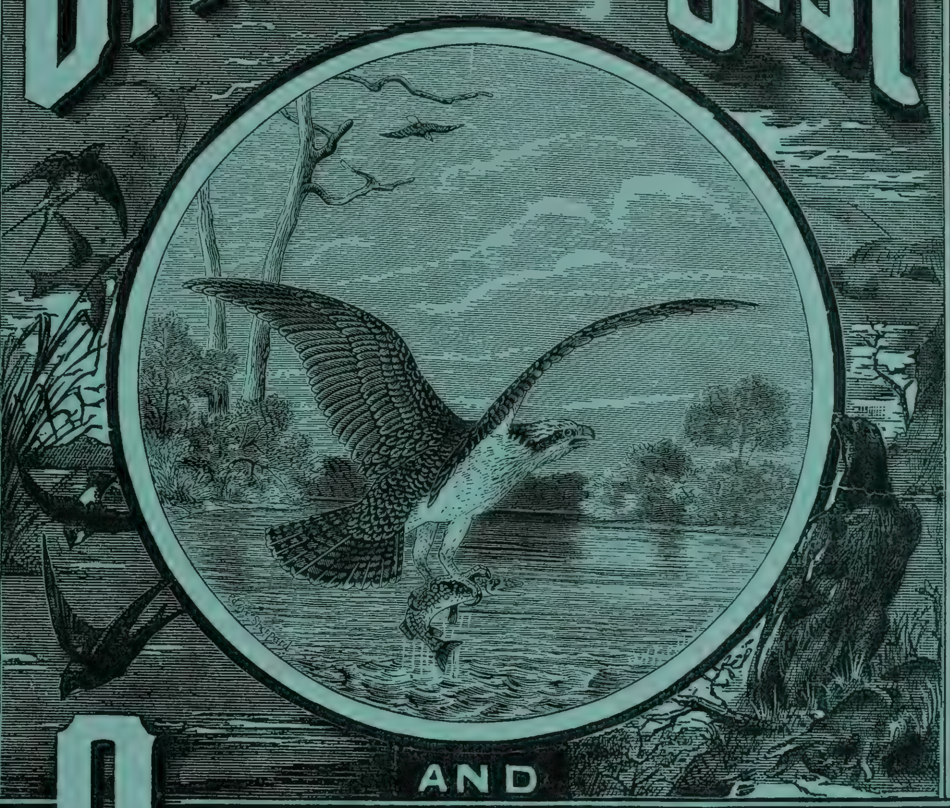

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VOL. XII. BOSTON, MASS., NOVEMBER, 1887. No. 11.

A Series of Eggs of Dendrœca Maculosa.

BY J. P. N.

The eggs of the beautiful Black and Yellow or Magnolia Warbler, (*Dendrœca maculosa*) present a far greater variation when seen in a large series than would be supposed. In size, ground color and markings they show great differences. The number, however, would appear to be always four. Many of the eggs are very beautiful, and the markings are often much heavier than those of most species of warblers.

In the following paper an attempt is made to describe a series of twenty-four sets, all of which are of undoubted authenticity. The whole series were collected at Grand Manan, N. B., by a veteran collector, who has probably taken more sets of warbler's eggs than any man living.

The measurements are all in hundreths of inches.

Set I. June 16, 1885. Four eggs. Very faint grayish white ground color. One of the eggs almost unmarked save for a very few lilac dots and streaks. A second has only a few reddish brown specks. The third has the spottings more distinct; while the fourth has a few larger spots, but the effect of the whole set is of a more unmarked appearance than any others of the series: .63 x .52; .62 x .51; .63 x .51; .63 x .53.

Set II. June 15, 1886. Four eggs. White, marked with lilac and light reddish brown spots and streaks: .64 x .47; .65 x48; .66 x .49; .64 x .49.

Set III. June 8, 1885. Four eggs. Light creamy white, delicately marked with straggling lines and spots of reddish brown, somewhat after the manner of eggs of the genus *Icterus*. This style of markings seems to be rather unusual for *Dendrœca maculosa*: .66 x .49; .67 x .50; .67 x .49; .77 x .50. The last described egg of this set is very curious, as apart from the fact of its measuring a tenth of an inch longer than usual, it is very pointed and is shaped like some specimens of *Hirundo erythrogastra*. To add to its peculiarity nearly all the markings are clustered around the smaller end.

Set IV. June 24, 1885. Four eggs. Creamy white, and much more glossy than usual for this species. Marked with small reddish brown and lilac specks and spots, mostly at the larger ends: .60 x .49; .60 x .49; .58 x .49; .60 x .49.

Set V. June 13, 1885. Four eggs. Creamy white speckled with lilac and brownish red, chiefly at the greater ends: .56 x48; .59 x .48; .59 x .45; .56 x .47.

Set VI. June 18, 1887. Four eggs. Faint grayish white, marked with lilac and reddish brown spots more heavily at the greater ends. In one of the eggs the lilac is entirely wanting, the spots are much heavier, and they are all of a reddish brown: .60 x .50; .63 x .49; .65 x .48; .62 x .49.

Set VII. June 9, 1885. Four eggs. Dull white, speckled with lilac and reddish brown, more closely near the larger ends: .67 x .47; .66 x .47; .67 x .45; .67 x .47. This set very closely resembles an undoubted set of *Dendrœca discolor* collected near Savannah, Georgia, by Mr. T. D. Perry.

Set VIII. June 18, 1887. Four eggs. White, speckled and spotted (mainly near the larger ends) with reddish brown and lilac. The markings form wreaths: .67 x .49; .65 x .50; .66 x .49; .65 x .49.

Set IX. June 15, 1885. Four eggs. Pure white, spotted at the greater ends with reddish brown and lilac: .63 x .52; .62 x .51; .61 x .48; .62 x .51.

Set X. June 17, 1885. Four eggs. Light creamy white, spotted with two shades of reddish brown, (one of them darker than the other) and also with a few lilac dots. The markings form an indistinct circle near the greater ends: .70 x .49; .68 x .47; .70 x .49; .68 x .49.

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Set XI. June 16, 1885. Four eggs. Light creamy white, heavily marked near the larger ends with reddish brown. Two of the eggs also have a little lilac on them: .66 x .49; .66 x .50; .65 x .49; .66 x .48.

Set XII. June 18, 1885. Four eggs. White, marked with lilac and light and dark brown. The markings form wreaths around the larger ends. In one of the eggs, however, faint specks of lilac are diffused all over it, and the brownish red markings are entirely wanting: .69 x .49; .69 x .49; .72 x .49; .70 x .50.

Set XIII. June 13, 1885. Four eggs. Creamy white, heavily spotted near the greater ends with reddish brown and lilac: .59 x .45; .58 x .43; .58 x .44; .61 x .46.

Set XIV. June 13, 1885. Four eggs. White, quite heavily spotted with lilac and reddish, which form indistinct wreaths around the greater ends: .67 x .57; .67 x .57; .67x .57; .69 x .58.

Set XV. June 17, 1885. Four eggs. Creamy white, heavily spotted with bright reddish brown and lilac. The markings form a wreath near the larger ends, and the rest of the eggs are entirely unspotted: .64 x .47; .64 x .47; .69 x .49; .64 x .48.

Set XVI. June 15, 1885. Four eggs. White, marked with lilac and reddish brown. The spots form a wreath near the centre of three of the eggs: .66 x. 51; .68 x .52; .66 x .52; .68 x .51. These bear a remarkable resemblance to a set of *Dendrœca blackburniæ* collected by my friend Frederic H. Carpenter on June 7, 1883, in Oxford County, Maine, and generously presented to me by him. Mr. Carpenter shot the parent bird, so there can be no question about the identification. And here it may be remarked that when Mr. Robert Ridgway, in his new *Manual of North American Birds*, describes the eggs of *Dendrœca blackburniæ* as of a "greenish white or very pale bluish green," it is to be presumed that he does so from the set of eggs now in the collection of the National Museum labelled as belonging to that species, and which agree with his description. Mr. Carpenter's experience with the eggs of *D. blackburniæ* has been very different. He has found several sets, which were all perfectly identified, and all of them had the ground color *white*, with no trace of greenish.

Set XVII. June 17, 1887. Four eggs. Creamy white, spotted and blotched with reddish brown and lilac. The markings are dispersed all over the eggs, but are heavier and closer together near the greater ends: .66 x .48; .65 x .47; .66 x .48; .66 x .48.

Set XVIII. June 18, 1885. Four eggs. Glossy white, speckled, spotted and blotched with two shades of reddish brown and lilac. The heaviest markings are at the greater end, where they form an indistinct wreath: .62 x .49; .63 x .51; .64 x .49; .63 x .51.

Set XIX. June 19, 1885. Four eggs. Creamy white heavily wreathed near the larger ends with bright reddish brown and lilac: .65 x .50; .63 x .50; .64 x .48; .67 x .47.

Set XX. June 16, 1885. Four eggs. Creamy white, heavily marked with bright reddish brown and lilac. The markings form a wreath near the larger ends, but there are also a few specks over the remainder of the eggs: .63 x .48; .64 x .49; .63 x .49; .62 x .48.

Set XXI. June 18, 1887. Four eggs. Creamy white, heavily blotched and spotted at the greater ends with lilac and brilliant reddish brown: .67 x .50; .65 x .50; .68 x .50; .67 x .50.

Set XXII. June 20, 1885. Four eggs. Creamy white, heavily spotted and blotched, especially at the greater ends, with lilac and reddish brown: .64 x. 48; .61 x .46; .64 x 48; .62 x .46.

Set XXIII. June 17, 1887. Four eggs. White but the ground color is almost wholly obscured by lilac and faint reddish brown markings, giving them a somewhat pinkish appearance at a little distance. None of the markings are distinct: .64 x .46; .64 x .46; .66 x .45; .64 x .46. Very pointed eggs for this species.

Set XXIV. June, 1885. Four eggs. White, but so obscured with reddish brown and lilac markings as to be hardly visible. Near the larger ends there is a wreath of darker red. The most remarkable set in the series: .60 x .46; .62 x .47; .61 x .47; .64 x .48.

The twenty-four nests belonging to the above sets are before me, and they exhibit a remarkable similarity in the materials of which they are constructed. They are made almost entirely of spruce needles. This gives them a reddish appearance, which contrasts with the black horse hair with which most of them are lined, and which presents an admirable background for the beautiful little eggs.

A few of the nests have no horse hair lining, and in none of them has any colored hair been used but black. No trace of feathers appear in any of them. The average diameter outside is 3.10 inches, while the average inside diameter is 2.00 inches. The average depth outside is 1.20, and the average depth inside is .60. It will be noticed therefore that the nest is quite shallow, and it is loosely put together. The almost invariable situation appears to be in a small spruce tree, at a height of from two to five feet from the ground.

Notes on Some Birds of Grand Manan.

BY C. H. ANDROS.

Black Poll Warbler *(Dendrœca striata)*. Both Hay and Sheep islands seem to be favored breeding grounds of this species; no less than five nests being brought to light in an hour's search over the former. We did not confine our attention exclusively to the smaller breeders or undoubtedly many more sets would have rewarded a more thorough investigation. Several cats that had an apparently unrestrained life during the warm season have diminished the bird life to no little extent. On Nantucket, Long, and the Duck islands, these felines are no longer tolerated, having been expelled a few years ago, at the suggestion of Mr. Cheney who could not fail to see that their depredations, especially among the Warblers, would if allowed, impair the increase of their numbers in a few seasons. Those species whose home most frequently comes in "Tabby's" path are the Yellow-rump, Black-poll, Black and Yellow Warblers and Swainson's Thrush.

The nidification of *D. striata* differs from that of *D. maculosa*, the nest being more bulky and the greater variety of material entering into its composition makes it easily distinguishable from the simple mould of hair and grass fibre of the Black and Yellow. The eggs too are a trifle larger, resembling those of the Black and White Warbler, to my mind. The song is " weak and unmusical," in addition to which is frequently heard the squeaky note more often noticed, perhaps, during migration, which a particular friend of mine likens to a mouse in a trap in distress.

The typical nests are generally built in the intersection of limb and trunk of a low hemlock, and we found the complement to be five eggs. The Gulls nest very abundantly in the neighborhood of their haunts often encroaching on them, and one nest was placed but a few yards from where an Olive-back Thrush was seated upon her full set.

Redstart (*Setophaga ruticilla*). Locally common, being for the most part confined to the birch and cedar thickets, where the majority breed. Out of several nests which we examined a single exception was placed otherwise than in one of those mentioned trees. In the densest thickets which we canvassed they were not unfrequently found, while again, per contra, their nesting was noted a few rods from an inhabited dwelling in the interior. This latter instance is deemed exceptional, however, and from our notes gathered, the Redstart of Manan is evidently retiring in habits, not shy, however, as on no occasion did they discourage our approach, nor evince fear while we remained in the vicinity of their domiciles. On one occasion I sat on an old brush fence for fully thirty minutes watching the female at work, less than a rod away and myself in open view. She seemed to be aware that I was watching her movements, but this did not deter her, for she continued to labor unceasingly though an instinctive coyness was displayed in gathering the material, which I noticed she did not procure in the direction I was resting, and that her approach to the nest was invariably made from the opposite side of the thicket to that on which I sat. By far the most beautiful nest of this species which I have ever seen was found on Hay Island on June 11th. This bulky fabric was composed almost entirely of white feathers and down of the Herring Gull, intermixed with a small quantity of moss and hair. Resembling at a distance a huge snow ball, it was a conspicuous object about three feet up in the evergreen, and examination proved it to contain three, such large and strangely marked eggs, that until the female appeared, I had made up my mind that this was *the* find of the day. Her appearance dispelled all doubt, however, and I am reluctant to say, to my regret.

Black Guillemot (*Cepphus grylle*). This small Guillemot breeds very abundantly in certain places on the bold western coast, laying their eggs in all sorts of out of the way places which offer shelter above high water mark. Not being in particular quest of this species we spent but a short time among them at a favored breeding ground, the western coast of Wood's Island, where we found them June 11th, nesting in countless numbers. This island is high and wooded, and lies to the southeast of Grand Manan proper, and is about half way between the latter and the Three Islands. On the eastern side the land slopes gradually down to the pebbly beach, while the southern and western shores are lined with massive perpendicular cliffs which rise in sheer ascent three to four hundred feet from the surf-beaten base. For grand and rugged coast scenery this spot is unsurpassed on Grand Manan. At the foot, and from holes and cavities all the way up these cliffs the Black Guillemots whirr away as we pounded on the turf above. In a few moments the water was alive with them; they venture out but a short distance, disporting and preening themselves, all the while keeping up a plaintive clucking note. The eggs, two or three in number, are placed on the bare rock, or occasionally hollowed out in the dirt and lined with chips of shale. The boulders and rocks which lay in every sort of inexplicable positions and postures, as if an earthquake had shaken them from their original foundation, offered excellent nooks and corners for the shelter of the nests of *C. grylle.* The eggs are sometimes inadvertantly laid too near the water's edge and washed away by the incoming tide. A small subterranean cave which we reached after a tedious crawling over the sharp rocks on hands and knees, contained several nests which we found by candle light. They are exceedingly skillful in hiding away their nests, and one may poke about the cliffs for some time ere he gets the "hang" of finding their eggs. As it was, I failed to acquire this art, and came away with little to show for the trouble.

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Birds and their Relation to Agriculture.

BY THEO. G. LEMMON, WESTPORT, MO.

About the time the O. AND O. published my first query, I met Hon. J. C. Evans, President Missouri Valley Horticultural Society, and with him discussed some of the pet theories of ornithologists and horticulturists on the protection of birds.

His remarks led to a course of study during the next season, which, with compiled facts, was at the request of the Secretary of the State Horticultural Society, Mr. L. A. Goodman, furnished by me in a paper entitled "A Plea for Our Birds," published in full in the Kansas City *Live Stock Record and Farmer* of December 16, 1886 and in *Colman's Rural World* of about the same date.

Yesterday, on the invitation of Mr. Goodman, I attended a picnic and meeting of the Missouri Valley Society.

In a conversation with the president, I related the difficulties in the way of the ornithologist rendering valuable aid to the horticulturist because of the ignorance of what the horticulturist wanted, in the first place, and because the ornithological student was a denizon of the town or city and largely debarred from study in the vineyard and orchard, or the small fruit plant of the horticulturist at the time such study could best be carried on. Debarred by the horticulturist himself upon grounds of economy—grounds which the jovial president soon forced me to admit were well taken.

Classing me as a scientist, he assured me that when we scientists talked we invariably overshot—a result attained, I presume, by aiming high—I, of course, felt sure of his mistake except in occasional cases.

A few moments later I was convinced he was right and I was wrong. The session was called and reports of committees called for. I was soon convinced that if I had overshot at my birds they were overshooting with fruits and vegetables, not a single apple, peach, potato, grape, plum, cherry or berry passed near enough to me for me to fix the flavor or even detect the aroma—if it had any.

When I left, though I was all in doubt about whether the paw-paw and the smock should be trellised or trained along the ground; whether the yellow Nousemond would mature earlier if engrafted upon a Captain Jack stock; whether the largest yield of black caps came from planting small seed whole or single eyes; whether the bunches of Heath clings or Early Ohios were most suitable for jellies or jams—but with not the least doubt but that I had spent an afternoon with a body of educated, well-posted, intelligent ladies and gentlemen, who make it a part of their life work to be well read in current literature as well as devote time and energy to keeping posted in their special work.

After adjournment, a member of the standing committee on ornithology told me he knew almost none of our birds, and was unable to get hold of descriptions that would enable him to recognize them. Brother ornithologists are you surprised that this man, though an intelligent observer, should find himself in this predicament? Have you ever had to change the specific name on one of your labels? Can you label the birds of your State without the opera glass or the shot gun?

Now I think every ornithologist will agree that I am doing the proper thing in accepting an invitation to go before this Society by the third Saturday in October and taking from my collection of skins, *Cuculidæ*, *Icteridæ*, *Ricidæ*, *Vireonidæ*, *Certhiadæ*, etc., and making these known with such of their habits and proclivities as I can, and asking contributions of knowledge from these observers at future meetings. I know the punctillious ornithologist — the Grand Mogul who knows he has 60 per cent. of the vowels in his title and thinks he has 100 per cent. of scientific knowledge on the subject — will object that the observations of the horticulturist will not be scientifically conducted. Let us take their observations as offered, and after approved methods establish or disprove these things that lie along the line of the practical value of our favorite study. Such work will help us more than bird laws by closing many a field that is now open to the boy-with-a-gun, and by opening hospitable front doors and cellar doors and inviting fields to the student who to-day glances nervously around at sight of "No trespassing."

I will be glad indeed to correspond through O. AND O. or personally with any one interested along this line of ornithological work.

Observations on Nest-Building.

BY WALTER HOXIE, FROGMORE, S. C.

The year before last I went "cooning." It was late for coons, and I rapped at many hollows without success. At last I dislodged a Pileated Woodpecker, and made a careful note of the spot for future reference. In the next hollow I secured my coon.

Turning homeward, I noticed in a big "deading" a pine tree with the top broken off, leaving a wide, ragged hollow on the south side. Into this were thrust four stout sticks. It was fully thirty feet from the ground, and while I was wondering how they came there, a Fish Hawk passed overhead and added a fifth stick to the collection, thus solving my problem for me.

The planting of this stick was a work of considerable time and patience. The mate came and assisted, and some very animated conversation ensued which I was too ignorant to translate, or at least could only do so in a manner which could not be called anything but very "freely." I got quite interested in this piece of architecture, and spent a good deal of time during the next week "overseeing" the job. When the nest was completed it looked as if it was stuck against the south side of the stub, and the hollow was plainly close to this edge. With a glass I could see the feathers of the sitting bird through the side of the nest. After incubation was well advanced there came a very windy spell of weather. After it was over the male was exceedingly active, adding material to the north side of the structure. Plainly the winds had shown them that their domicile was top heavy, and he was balasting it for fear a stronger gale might come and topple it over. Last year this same nest was repaired and the old hollow completely filled up, and a new one made on top and in the middle.

Close by my house is a bed of rushes in which a Clapper Rail builds every year. The first time I found the nest it contained only one egg, and did not seem wide enough to hold more than one more. It was in plain sight from my "skinning" window, so I placed my spy glass in a rest and lost much valuable time in watching the movements of the old marsh-hen and her mate. As each new egg was laid they added fresh material to the outside, until the nest was at last amply sufficient to contain the full set of eight. The deft way in which they interwove their building material was really a beautiful sight. The male dragged one long, trailing reed from a rice pond fully a hundred yards distant, and stitched it through and through the whole outside. I took it out after the young were hatched and found it to measure four feet and a half in length.

Quite near this nest I took one of a Long-billed Marsh Wren with two entrances instead of one. One was much larger than the other and a friend accounts for it by supposing that the wren was a little crazy—like the man that cut a hole in his barn door for the cat and a smaller one for the kitten.

Late in May I found a White-eyed Vireo's nest containing one egg. It was in the left hand side of a double crotch on a maple bough, and directly below it, and touching the bottom, was a tall thorny shrub known locally as a "Devil's Walking Stick." The top of this being upon the bottom of the nest had canted it somewhat to the right. and the little architects had torn away a portion of the right side of the edge of the nest and carried a "guy" across to the right hand side of the other crotch. The left side of the nest was also raveled out a little from its supporting twig plainly for the purpose of "getting slack" for the purpose of swinging the frail structure away from the thorny stick which threatened its equilibrium. I looked upon it as a very clever piece of engineering, for the "Devil's Walking Stick" is a very quick growing plant, and would soon have upset the nest. Judge of my surprise about a week later when I visited the locality and found the nest suspended entirely in the right hand crotch, and the "Devil's Walking Stick" going right up through the space in which the nest had first been built! There were the shreds still hanging which had formed the edge of the original structure, and the new fastenings had of necessity dropped the little house somewhat, so that it hung full half an inch lower than is usual with the habitations of this little bird, but the body of the nest—that is from the tip to the bottom—was not deeper than ordinary. It was only the new edges that suspended it in its new position that gave it an apparent extra depth. It contained three eggs. Subsequent observations proved that two of them were addled, for only one young was hatched, and the eggs remained in the nest with it for a week or more.

The Number of Eggs in a Set of the Kingbird.

BY F. H. CARPENTER.

I was very much interested in the article by Mr. J. N. Clark in the October issue of the Ornithologist and Oölogist, in regard to his experience with the number of eggs in a set of the King Bird (*Tyrannus tyrannus*). My own observations of this subject will agree with those of Judge Clark to a great extent. I have never found five eggs in a nest, and I have examined a large number for this very purpose. With the sets of four and three, I must slightly disagree with Judge Clark, as sets containing each number have been found in equal proportions. It has long been a matter of note with me that this species was content with a trio of eggs for a full complement as often as four, and it afforded additional interest to learn from an extended observation that in some localities the lesser number was in a decided majority.

It is further interesting to note that in many instances the species deposit only a trio, pair, or even single egg for a set worthy of the tedious period of incubation. Most ornithologists reason, and rightly too, that in such cases in which the counts falls short of the typical number, some casualty has occurred to prevent a full oviposition, but in many instances which have come under the writer's notice, and afforded individual identification, it has been observed as occurring in cases to which no such reason could be applied. Perhaps a brief mention might be made, without detail, of some species which have been recorded, as not fulfilling what is regarded as a complete requirement of nature's laws. Sets of Cat Bird, one, two, and three have been noticed very frequently within the past three years, a circumstance the more noteworthy from the fact that the observation is confined to more recent dates. The Red-eyed Vireo is usually very regular with her set of four eggs, but three have been noted as a full satisfaction to the parents. The Sparrows seem to have abstained from any proclivities to shirk the full demands of nature, and in none of that family, with the possible exception of the Towhee, which species I have found sitting on two and three incubated eggs, and again in two exceptions, a set of five has fallen to my lot, or rather box. Nearly all the Warblers lay uniformly four eggs, excepting *Dendroica æstiva*, which has given me the pleasure of examining many nests with five and once with six.

The common Robin is extremely careless as to how many eggs she devotes her time and energies if it does not exceed four. Only twice have I obtained sets exceeding the latter number, and frequent rumors with the country collectors in this section of larger numbers have, when followed up, proved delusions. Scarcely any species is exempt from these traits, but whether it is an individual characteristic, or local influence, is a matter of opinion. The subject has been discussed at some length with the Hawks and Owls, but I fail to see that that family proves any exception from others, as careful observation would immediately prove.

The Black and Yellow Warbler at Grand Manan.

BY CHAS. H. ANDROS.

This exquisite species (*Dendroica maculosa*) being one of the few for which we had made the island an objective point, it was my original intention to have devoted a separate article to its nidification, but being aware that the birds are comparatively well known, and the eggs represented in nearly every collection of size, I concluded to give our experience in the simple monographic form in which the others have been dealt with, reserving the privilege, however, to speak briefly on the colorations and markings of a few of the sets taken. Hardly had our feet touched Dominion soil on our walk to Northern Head when the sweet song of the Black and Yellow was recognized, and was soon a familiar one to us, proceeding usually from some copse or brush clearing. Often this pleasing variation would spur us to efforts extraordinary when stumbling along over tangled brush and interlaced creepers in some execrable swamp, where the only other sound to break the monotony would be the occasional *haw-haws* of the Gull, or the far off whistle of the White-throat on the hills above. The precipitous walls which rise out of the waters of the Cove de Whale are probably nearly as high as any spot on the northern half of the island.

At a distance these towering cliffs present a most beautiful appearance, at one point stratified with geometric lines of perfect masonry and at others displaying the richest hues. On the eastern side of the inlet the land from the top of the cliffs rises gradually for perhaps two hundred yards, terminating in an abrupt ridge, which is kept up around North Head to Swallow-tail Point, nearly two miles in all. The growth of this ridge differs from that of the plateaus above, the furze and juniper which at first predominate being gradually displaced by hemlock, with now and then a clump of birch, ash or alder, while spruces are scattered and intermixed with the prevailing hemlock.

On the side of this ridge we found our first nest of the Magnolia on the 5th of June, which at that comparatively early date was first commenced. The female had when first noticed a bit of catkin in her bill with which she flew toward us and disappeared among the birches beyond. A short search revealed the embryo domicile some three feet up in a spruce, which stood in the centre of a clump of hemlock. The soft material which the female carried when first noted was evidently used for ornamentation only, the nest being invariably constructed without regard to warmth, being made up of rootlets, dry grasses and a few hairs. Not confined to high land we met with success where the ground was slightly fenny, especially where the heavy timber had been cut or burnt off, leaving the small stunted spruces peculiar to Northern New England, varying from one to seven or eight feet in height, and deemed of too little consequence by the wood choppers to cut. They are thick and bunchy at the top and afford ample protection for their nests. Some of the burnt districts would be devoid of these dwarf shrubs while others would be thickly dotted with the growth. The low shrubs seem adapted to the liking of some, though the majority prefer the height of from two and one-half to six feet, from our observations coupled with those of Mr. Cheney. Ross' Island made a good showing after a morning's search, but the other islets which fringe the coast do not seem favorable to its nidification; the main seems to be the proper place and here we met with best success. From a series of eight sets, taken on the island, before me, there is considerable variation as to markings, the ground being invariably white.

No. 1. Contains four eggs, which are spotted chiefly about the crown with vandyke brown. A wreath of brown blotches encircles the base of each specimen.

No. 2. Contains four eggs, resembling number one, having a few blotches of obscure lilac on the crown and minutely dotted with vandyke.

No. 3. Contains four eggs, beautifully wreathed about the crown with reddish-brown dots and deeper blotches.

No. 4. Contains three eggs, similar to number two, blotched more heavily with vandyke and umber.

No 5. Contains three eggs, and is the counterpart of number one, the ring of vandyke being slightly more prominent.

No. 6. Contains two eggs, blotched with obscure lilac about the crown, while the whole surface is flecked with reddish-brown.

Nos. 7 and 8. Are handsome sets, containing four eggs each, being clouded on the crown with obscure lilac, and blotched, spotted and flecked with beautiful shades of brown. The wreath in these sets is not so clearly defined as in others.

My veteran friend, Mr. Cheney, in a recent letter tells me that he found between twenty and thirty complete sets during his leisure hours this season.

Nest of the Winter Wren.

BY WILLIAM L. KELLS, ONTARIO, CANADA.

This species (*Anorthura troglodytes hyemalis*) is pretty evenly distributed in most of the woodlands of Central Ontario, at least I have heard its thrilling song notes in the deep woods of all the localities where I have resided, or visited in the summer season, except on the shore of Lake Huron. It is among the earliest of our feathered exiles to return to its native haunts when the rigor of winter is over, and the more gentle spring is about to open over the fields and the remnant of our forest lands. Always at the opening of the second week of April—let the weather be stormy and cold, or calm and sunny—and though the snow and ice may still be deep and frozen in the woods, the interested observer of nature is sure to hear the cheery song of this active little wild-wood wanderer, coming from out the remains of some gloomly lowland wood where it makes its summer home. On the 6th of April of the present year, though the ground was frozen hard as rock, the snow still deep in the woods, and the wind from the north was bitterly cold; yet, being out at the back woods on my farm—Wild Wood—I was much pleased to hear the gladsome lay of this species, in the same wilds where in preceding years it lent a charm to the otherwise gloomy scene. For, to my mind, the song notes of but few of our birds has more melody than that of the Winter Wren, and to seek its nesting place and secure some sets of its eggs has occupied the leisure hours of many a spring and summer day; and to attempt to describe some of the haunts of this bird, and the hardships met with, especially after the mosquitoes have developed from their watery cradle, would, I think, discourage most of our closet naturalists, yet in all my hunts and rambles, from our early settlement in the backwoods, only three nests of this species—containing eggs—have come within my observation. Many an old or newly composed nest have I seen, but from the fact that the species builds a number of false nests, and at once forsakes one that is touched by the human hand, certain it is that many a time when I have revisited a nesting place, in the hope of securing the eggs, have I returned disappointed.

In the early part of May, 1887, in company with one of my youngest children, I took a ramble to a piece of woods about a mile and a half south of this town, where I have hunted in the early season for some years past, and every part of which is well known to me. In the centre of this wood is a tract of low swamp which I knew to be the summer habitat of one or two pairs of Winter Wrens, and where I had seen several nests, but failed to procure any eggs. On this occasion I was pleased to note the recent arrival of some of our most pleasing woodland songsters, otherwise we had nearly completed the circuit of the wood without observing anything else worthy of note, except gathering some beautiful wild flowers, when I noticed that a good sized maple tree had lately fallen near our path, and that in its fall it had drawn up with its roots a large piece of earth, which hanging downwards formed a kind of tent or wigwam, and that near by a Winter Wren was charmingly singing. Conjecturing that this might be a nesting place of this species I drew near to investigate. I found in the hut a kind of door, into which I stooped down in order to see within, and there just before in the side of the wall I was pleased to discover the newly formed nest of the Winter Wren. Owing to its form and position and the small entrance, it was of course impossible to see the bottom of the inside of this structure; but warned by past experience I did not dare to intrude a finger, but I rightly judged that it was yet too early in the season for eggs to be deposited, and a close view of the nest showed that it was being lined in the inside with small feathers. I therefore calculated that in about ten days the nest would be finished and the set of eggs deposited. Accordingly I returned on the 18th, and as I stooped into the cave and no bird flushed out, I began to fear that I was again to be disappointed, but cautiously inserting a finger into the door of the nest I was pleased to find that it contained a number of eggs, one of which I took out, and thought that it looked fresh, then I feared that the set was not completed, but I concluded to take them rather than run the risk of not getting any, as the bird discovering that the nest had been disturbed might destroy the eggs, or some other species of collector might take them before I returned again; and it was well that I did so, for on preparing them I found that they had been several days undergoing the process of incubation. This nest, which I carefully removed, was in form much like that of a mouse, with a small entrance in the side facing outward, and was composed of a species of greenish-yellow moss that grows on the bark of maple and elm trees, in damp woods. On the outward side, in order to make it more firm, especially around the entrance, the little architect had intermingled with the soft moss several bits of small bramble and stalks of dead leaves. The inside, as well as I could see, was neatly lined with the fine feathers of hawks, crows and grouse. The set of eggs was five in number. These were of a clear white hue, dotted, especially towards the larger end, with small spots of a reddish color. In form, size and coloration they can scarcely be distinguished from those of the Chickadee and Brown Creeper.

Flight of Land Birds on Monomoy Island, Cape Cod, Mass.

BY JOHN C. CAHOON.

A flight of land birds took place on this island on or about September 17th.

The wind blew fresh from the north for several days preceded with cool weather, and this had no doubt started the birds on their southward journey.

The first notice that I had of the presence of these birds was on the morning of the 17th, when Mr. J. Whiting, a gentleman that was with me at the time, and myself were over on the high beach after Plover. While in my blind a large flock of Barn and White-bellied Swallows flew past towards the north, and in a few moments returned, flying south. There were several hundred in the flock and it was composed of young and adults.

Shortly after Mr. Whiting started four Golden-winged Woodpeckers out of the beach grass and secured two specimens. A Winter Wren visited him in his blind and hopped along over his gun, and for this apparent unconcern for man he escaped with his life. Mr. Whiting also saw a Fox-colored Sparrow near a marsh while on his way to the boat.

In the afternoon we made a visit to a small swamp on the middle part of the island. This swamp is composed of a thick growth of beech, plumb, bayberry and other bushes, with wild briers in abundance. It is small, not containing over one-fourth of an acre.

On our way over the swamp we found Savannah and Song Sparows abundant.

Our first capture was an adult male Blue Yellow-backed Warbler, which I shot from a small bunch of bushes. On arriving at the swamp we saw some six or more Golden-winged Woodpeckers make off, and although I shot several I could not find them, as the bushes were so thick where they fell. After spending several hours in hard, tiresome work tramping through and around the swamp, as the rents in Mr. W.'s trousers could testify, we started back for the house, deciding that the swamp was "bad medicine."

The following is a list of the birds we saw:

Golden-winged Woodpeckers, six seen. Cedar Waxwings, saw a flock of five and two shot; one male adult and one young. Hermit Thrush (*tol. com.*), keeping close in the thick bushes, Yellow Warbler (*tol. com.*), all seen and one shot, adult male. Saw and shot one female Redstart. Several (*yg.*) Maryland Yellow-throats seen. We also saw several other small birds that we could not identify.

The next morning, the 18th, we went over to the swamp to see if there was any increase in birds, but didn't notice any. Saw a Pigeon Hawk make a dive down into the swamp after a small bird, which it missed. While returning, started a Short-eared Owl out of the beach grass, and he alighted some distance ahead, down near a sand hole, as I thought. I tramped about the place, but could not flush him, and was just giving up the search when I saw a Sparrow Hawk dart down at something on the sand a short distance ahead of me. At each dart I heard a note that I knew came from the owl, and looking closely saw it directly below the hawk. As the owl flew up I gave him the first barrel and turned to give the hawk the second, but he improved the few moments and was out of gun shot.

The same day Mr. Whiting took a Brown Creeper that was on the roof of the house.

Eggs of the Western Yellow Warbler.

BY J. P. N.

In the *Bulletin of the Ridgway Ornithological Club* for April, 1887, (No. 2) p. 82, there was described a new variety of the Yellow Warbler (*Dendroica æstiva.*) It was christened the Western Yellow Warbler; and its scientific name, *Dendroica æstiva morcomi*, was given in honor of Mr. G. Frean Morcom, of Chicago. This new variety has been recognized by Mr. Robert Ridgway in his recently published *Manual of North American Birds*, where under *Dendroica æstiva morcomi*, (page 494,) he describes its plumage and habitation as follows:

"Paler, the *adult male* with chestnut streaks on breast and sides averaging much narrower and paler (than *Dendroica æstiva.*) the *adult female* decidedly paler yellowish. *Hab.* Western North America, east to Rocky Mountains; in winter, south through western and central Mexico and south at least to Panama."

Thinking that a description of a series of the eggs of this species would be welcome to the readers of THE ORNITHOLOGIST AND OOLOGIST the following has been prepared. It may be remarked that all their colorings and sizes can be readily picked out of a large series of eggs of *Dendroica æstiva*.

Set I. Haywards, California, June 22, 1881. Three eggs, incubation begun. Grayish white, marked near the larger ends with heavy wreaths of umber brown; .62 x .50; .60 x .49; .61 x .49.

Set II. Haywards, California, June 21, 1881. Three eggs, incubation advanced. Grayish white, marked with umber brown specks, which are much heavier near the greater ends, where they form in distinct wreaths; .62x.50; .63x.49; .63 x .50.

Set III. Haywards, California, June 22, 1881. Three eggs, incubation begun. Two of the eggs are grayish white marked with umber brown at larger ends, while the third is of a greenish white marked with darker umber brown; .65 x .47; .66 x .47; .69 x .46.

Set IV. Haywards, California, May 15, 1881. Three eggs, fresh. Grayish white spotted with umber brown and lilac gray. The specks are closer together near the greater ends; .63 x .48; .63 x .48; .64 x .47.

Set V. Ogden City, Utah, June 11, 1885. Three eggs, fresh. Grayish, speckled and blotched with umber brown. One of the eggs much more faintly marked than the other two; .69 x .48; .69 x .49; .70 x .49.

Set VI. Ogden City, Utah, June 10, 1885. Three eggs, fresh. Greenish white, speckled and blotched with umber brown; .66 x .49; .67 x .50; .67 x .50.

Set VII. Ogden City, Utah, June 10, 1885. Three eggs, fresh. Faint greenish white, marked with light brownish. In two of the eggs the markings form a wreath near the greater ends; .67 x .48; .64 x .51; .63 x .51.

Set VIII. Ogden City, Utah, June 8, 1885. Four eggs, fresh. Grayish white, heavily marked with blotches of umber brown, close together near the greater ends; .69x.48; .67x.48; .67 x .48; .67 x .48.

Set IX. Ogden City, Utah, June 8, 1885. Five eggs, fresh. Light greenish white, heavily marked with umber brown spots, forming indistinct wreaths near the greater ends; .63 x.47: .63 x .48; .64 x .48; .63 x .49; .62 x .48.

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Brief Notes.

This issue contains but sixteen pages, a circumstance which no one regrets more than the editors. When the Bristol Ornithological Club at the expense of its members increased its size in July, it was understood that the extra four pages were the gratutious offering of the Club, and as can be seen by back reference no definite promise was given. To be very plain with our readers we will say that we have not on hand sufficient articles of merit to fill the twenty pages, and the editorial staff are not machines to grind out a modicum of copy for the printer and it is this which makes scientific articles differ from general matter. It is not our fault that we have not a score of pages; earnest solicitation has been tendered with but medium success and as we cannot devote but a small portion of our time to this journal, and even that at a business loss, we do not feel warranted to any further undertakings with this lack of interest.

A scientific magazine is not a news journal, but simply a means of communication from all to all, in which any may take an active part, and our work is to arrange this information in the shape in which you receive it from month to month. We can, however, promise that when a supply of *original* manuscript will warrant we will present our readers with the twenty page form.

We recently had the pleasure of a call from Mr. Montague Chamberlain of St. Johns, N. B. and understand that Mr. Chamberlain is about to issue a volume containing a list of the Birds of Canada.

One of the latest tricks practised upon the farmers in Maine by smooth talking rogues, is to obtain their signature to a promise not to kill birds for a year, which in due lapse of time comes from their county bank as a promissory note for various sums. As a moral, none should sign aught but Audubon Society blanks.

It is with much surprise and regret that from a brief statement in the October number of *The Auk*, we learn that its present editor is to sever his connection with that magazine, "owing to ill health and pressure of other engagements." We sincerely trust that *The Auk* may not lose by any exchange, as Mr. Allen has conducted that journal with credit to both himself and the science it represents.

The American Ornithologists' Union held their fifth annual session at the Lecture Rooms of the Boston Society of Natural History, October 11, 12 and 13th. "About thirty-five members were present."

Probably no ornithologist gives more time to the subject of shore bird migration than Mr. John C. Cahoon of Taunton, Mass., as his frequent articles in the ORNITHOLOGIST AND OÖLOGIST and *Forest and Stream* will testify. Mr. Cahoon has long made Monomoy Island his point of observation, for by reason of its situation at the "elbow" of Cape Cod, it receives the full tide of migration movements. In conjunction with Mr. F. H. Carpenter, Mr. Cahoon has erected a commodious house upon the island for the use of the Bristol Ornithological Club, thus allowing a protracted stay into the winter months at which period of time many stragglers reach our coast, and also a time which the bleak section receives little attention from either bird hunters or bird lovers.

In the report of the Ornithologist to the Commissioner of Agriculture as contained in the Report of the Department of Agriculture for 1886, the English Sparrow receives his just verdict. By statistics gathered from various sources he is found to be useless to agriculture. But we could withstand the Sparrow were he simply neutral, but his deeds of violence to more worthy species, his unclean habits and theivish proclivities brand him with the mark of Cain, and he now stands with every man's hand against him. Before such truths as are presented in the *Report* all sentiment should subside and means of exterminating the little pest should be duly considered and put into action until he becomes either in due subjection or entirely extinct, the latter phase being the more safe in view of the amazing fecundity of the species, which would make even a few a dangerous experiment.

Ridgway's Manual of North American Birds.

It was due to the fact that one of the editors of this magazine was in the Northern Maine wilderness previous to the issue of the October number, that he was not afforded the time sufficient to thoroughly examine the above work. Hoping that in this issue some information can be given, in due time attention would be called again to the availability of the volume to the working ornithologist.

The object of the "Manual" is nearly coincident with that of *Coues' Key to North American Birds*, so long the recognized authority for identification, but it differs from the *Key* at the outset by plainly stating that it is "a convenient manual of North American Ornithology reduced to the smallest compass, by the omission of everything that is not absolutely necessary for determining the character of any given specimen." * * * * It however requires a book of equal proportions to the *Key*, even if it lacks the useless, though pleasing digressions in which the flowery pen of the Doctor frequently indulges, and which makes his otherwise technical work readable.

The "Manual" follows the A. O. U. Check List of North American Birds in its method of nomenclature and classification, but as several new species have been described and added to our Fauna, it has necessitated the slight change consequent upon their insertion in the proper places. A peculiar and distinct feature of this work is the inclusion of many extralimital species. In order to secure them, the geographical limits, as set by the A. O. U. Check List, has been overstepped in certain directions. There is also given the European variety of such of our North American species as can boast of foreign congeners, and the Order *Tubinares* has been included in its entirety, upon the basis that such erratic wanderers may occur upon any coast.

The introduction to the "Manual" gives very plainly its method of measurement, which is in English inches and hundredths, with few exceptions. Another excellent feature is the measurements given of the eggs of the species and coloration. These measurements, the author states, were the "average of six specimens * * * which approximate the average size and form." * * * Probably some of the most technical phrases used are those of the names of colors, which are taken from the same authors' *Nomenclature of Colors*, and without which a novice might be somewhat puzzled. It is a pity some of the essential qualities of the latter book were not given in the "Manual." A brief key to the higher groups precedes the body of the text, which elaborates with an introduction to each Order and Family, rendering the placing of any new species compartively easy to a critical student.

The individual diagnoses are excellent for indentification, if used in close conjunction with the "family" description, but taken alone, honest conviction forces me to say they are insufficient for that purpose. The typographical execution seems somewhat odd until the student reader becomes accustomed to reading the description, before the name of the species. Those not strictly of the North American fauna, but which, as previously stated, are described with equal minuteness, but being typographically distinct no confusion need arise.

The appendix, which follows the body of the work, contains the latest additions to the list, and further developments regarding some recent species mentioned in the volume, and to which proper reference is made.

From this same source it is stated that four new sub-genera and thirty-nine new species and sub-species are described, and eight genera and sub-genera are added, which were not recognized by the A. O. U. List, and thirty-one new species and sub-species admitted as North American, but not included in the A. O. U. List, but out of the above ten were described since the publication of the Check List.

Fifteen names have been changed from the A. O. U. List, as follows:

Æ. strelata gularis (Peale) to *Æ. scalaris* (Brewst).

Somateria mollissima (Linn.) to *S. m. borealis* (Brehm).

Ardea rufa (Bodd) to *A. rufescens* (Gm).

Subgn. *Nyctherodius* (Reich) to *Nyctinassa* (Stejn).

Subgn. *Rhyacophilus* (Kaup.) to *Helodromas* (Kaup).

Gen. *Ulula* (Cuvier) to *Scotiaptex* (Swains).

Dryobates scalaris (Wagl.) to *D. arizona* (Hurgitt).

Baird's Flycatcher to Western Flycatcher.

Molothrus æneus (Wayl.) to *Callothrus robustus* (Cab).

Pincola enncleator (Linn.) to *P. e. canadensis* (Cab).

Carpodacus frontalis (Say.) to *C. mexicanus frontalis* (Say).

Genus. *Certhiola* (Sundevall) to *Cœreba* (Viell).

Subgn. *Opororus* (Baird) is intended to include *Sylvia philadelphia* (Wils.) and *Sylvia macgillivrayi.*

The illustrations, which consist of outline plates, are for the most part excellent, some calling for notice of especial merit in following nature's lines, as those exhibiting the lines of *Spalula clypeata*, and *Histrionicus histrionicus*, and those of genus *Oidemia*, but to many of the readers of *Review of American Birds*, and Baird, Brewer, and Ridgway's later works, the drawings are familiar.

Lastly, but by no means least, due honor should be accredited to the late Prof. Baird, who, as the author acknowledges, although prevented from completing what he commenced, yet by his ready suggestions rendered invaluable aid in making this what it is, the standard text book of American Ornithology.

F. H. C.

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Birds of Northern Maine in Fall.

BY F. H. CARPENTER.

The scarcity of birds in the great uninhabited wilderness of Northern Maine at certain seasons is very pronounced. The writer, in company with Mr. F. L. Glezen, of Providence, R. I., spent the time from September 27th to October 10th in the woods above Moosehead Lake, going up the north branch of the Penobscot—a few days' journey—reaching the proximity of the St. Johns Ponds. During the entire trip, covering two weeks' time, very few birds were seen, as follows;

American Merganser (*Merganser americanus*). Four or five seen only.

Wood Duck (*Aix lepensa*). Two seen.

Great Blue Heron (*Ardea herodias*). A dead specimen found floating in the river.

Ruffled Grouse (*Boriosa umbellus*). Only two seen, and one of those was minus a tail, presenting a queer spectacle.

Pigeon Hawk (*Falco columbarius*). A single specimen seen, in pursuit of a Rusty Grackle.

Barred Owl (*Strix nebulosa*), One seen.

Hairy Woodpecker (*Dryobater villosus*). Occasionally seen.

American Three-toed Woodpecker (*Picoides americanus*). Only one seen, by Mr. Glezen.

Pileated Woodpecker (*Ceophtœus pileatus*). Again but one individual heard.

Blue Jay (*Cyanocitta crystata*). Second of these birds ever seen.

Canada Jay (*Perisoreus canadensis*). Conspicuous, rather than abundant.

American Crow (*Corvus americanus*). A very few seen while in the woods.

Rusty Blackbird (*Scolecophagus carolinus*). A few small flocks were seen.

American Crossbill (*Loxice curvirostra minor*). More were seen of this species than any other.

White-throated Sparrow (*Zonotrichia albicollis*). A few were heard, singing the same note as heard in June at Grand Manan.

Slate-colored Junco (*Junco hyemalis*). Fairly common about the lumber camps.

Tree Sparrow (*Spizella menticola).* A few individuals met with at the clearings.

Cedar Waxwing (*Ampelis cedrorum*). I have always met this bird in every section of Maine, and this trip was no exception.

Myrtle Warbler (*Dendroica coronata*). Several small flocks seen, evidently journeying south.

American Pipit (*Anthus pensylvanicus*). A few were started from the tall grass at a "logan" while plodding up the river.

Chickadee (*Parus atricapillus*). Its social qualities placed it under frequent observation, but even this species could not be considered as common.

Robin (*Turdus migratorius*). A couple of stragglers were seen near camp.

Belted Kingfisher (*Ceryle alcyon*). The individuals of this species were to be met with at all points along the river.

It seems almost incredible that the foregoing should include all the birds frequenting that region, but such is the case, with the exception of a few varieties of migrating warblers which kept well out of the way in the tree tops. I thought I detected *Dendroica custanea*, *D. striata* and *D. vigorsii* amongst the short bird calls, but can not positively include them.

The bird-life at Moosehead Lake differed somewhat. Here we saw the Black Mallard, Piedbill Grebe and Loon. The Crows were also much more abundant than in the deep woods, a fact noticed in other sections.

The American Bittern in Oswego Co., N. Y.

BY C. C. MAXFIELD, WILLARD, N. Y.

The Bittern (*Botaurus lentiginosus*), is as far as my observations go, not a very abundant inhabitant of Oswego county, although found under favorable conditions in most of the swamps of the county, but rather hard to find. Several have been taken in a swamp three or four miles directly north of Phœnix. This place is not more than half a swamp, but is composed of extremely swampy woods, and also many acres of meadow that is annually overrun with water, some of which remains the whole year. There is a small creek running through it.

I secured a fine specimen, a male, in the spring of 1885, in a very small swale, which is completely dried up in the summer months, and of not more than two or three acres in extent. This swale was not more than three or four rods from the Oswego River. I had seen a pair there a day or two before and went purposely to get a specimen, which I did without getting my feet wet. I was walking directly toward the swale with intentions of entering it, when I noticed a small object move slightly at the very edge of the shallow water. I did not see exactly what it was at first, but it being but about three rods distant, I walked at right angles to my first course, as I soon saw it was the specimen wanted. It stood with its bill elevated at an angle of about forty-five degrees and breast squarely towards me.

Seeing that it could not easily get away from me, I tried walking back and forth in front of it, observing it at the same time. The actions of the bird interested me and I walked in front of it several times, the bird always keeping its breast directly towards me, no matter which way I turned; doing so by raising one foot and then the other and still standing in the same spot, not offering to fly. After watching it for some little time I shot it, and found it to be a fine, adult male.

I then made a very thorough search for a nest through the swale, but was unable to find one, although I started another fine looking bird, which I missed.

Returning to the spot a few days after, a Bittern was started, a fine shot, but I had no gun with me. The swale was again thoroughly searched, but no trace of nesting found. During the search for the Bittern's nest, a Sora Rail's nest was found, containing ten eggs, all slightly incubated; no fresh ones.

The Bittern usually rests in some marsh, adjacent to a stream of water or swamp. Nest composed of dry and green grass in about equal proportions. Nest is raised above the surface of the ground from six to eight inches and completely covered over with dead, dry grass, only leaving an opening in one side for the entrance of the bird.

The nests found in this vicinity, for the finding of which we are indebted to Benj. F. Hess, have only contained two and three eggs, all of which were fresh, showing a possibility of the sets not being full ones.

The eggs are of a light creamy, brown color, and vary somewhat, but the average with us is 2.10 x 1.63.

My Experience with the Breeding of the White-breasted Nuthatch.

BY HARRY K. JAMISON, MANAYUNK, PHILA., PA.

Looking over the results of my season's collecting, I find that I prize my set of White-breasted Nuthatch's (*Sitta carolinensis*) eggs above any other set taken. It was only after a long period of patient watching that they were finally secured and for that reason they are valued highly.

On April 3rd I noticed a pair of these birds in an open woods, and knowing that it would soon be time for them to nest, I sat down to watch them. In a short time one of them entered a knot-hole in the trunk of a maple tree, fifty feet from the ground. During the next half-hour both birds entered this hole several times and brought out bits of decayed wood, which were either placed in a fork just below the entrance to the hole or taken off some distance into the woods. A week later I watched this tree three hours and during the balance of the month visited it several times, but did not see a bird near it again, so I did not consider it necessary to climb up and examine the cavity.

On the 17th of April I saw one of the birds, probably of the same pair, about two hundred yards from where I had seen them first; it kept in the tops of the tall trees, continually uttering its notes. Not having the time to spare I sent a friend to follow the pair. On the 20th of April he saw but one bird and watched it three or four hours. Twice, at an interval of half an hour, he saw it enter a knot-hole in a limb of a chestnut tree, sixty feet up. I spent three hours more watching this bird on the 23rd but did not see it go near the hole. Nearly all the following afternoon was spent in this woods. Both birds were seen and the male was noticed giving the female a bit of food as they were clinging to the trunk of a tree. I also saw the male enter the knot-hole into which my friend saw it go. The next day I watched the hole a short time and saw one of the birds carry in a bit of bark. On May 1st I followed one of the pair for some time; it did not go near the knot-hole but, two days later my friend saw one enter it, so I determined to settle all doubt about the matter. On May 7th I strapped on my spurs, ascended the tree and cut open the hole, only to find a large handful of oak bark without any sign of a nest. I did not pursue this pair any further.

On April 23rd while returning home through the woods from watching the above birds, I heard a low note uttered and looking up saw a male Nuthatch on the trunk of a large chestnut tree, eyeing me suspiciously.

Moving around to the opposite side of the tree I saw a knot-hole in the trunk, thirty-five feet from the ground, and very soon was pleased to see the bird creep to the edge of this hole and look in, then it flew off, but returned shortly with a bit of bark which it dropped in the hole. On the following day I observed it again and saw it carry something into the hole. Fearing that if it was left any longer I would find only young birds, I climbed to the hole on the 25th. The entrance was but two inches in diameter and the bottom could not be seen, so I was obliged to cut it open. This was accomplished after hacking fifteen minutes with a dull hatchet, while I clung to the trunk with the assistance of one hand and the spurs. Looking in I saw that the cavity was a natural one and enlarged from the entrance downwaid and inward. At the further end of it, ten inches from the entrance, and in the middle of the tree, was the little nest. It was composed of fine strips of inner bark and bits of rabbit fur. I was much grieved and vexed too, however, to see that it was empty; I was too early. While removing the chips that had fallen in I caught the side of the nest accidentally and had dragged it out before I knew it. I felt that this ended all possibility of the birds returning to nest in this cavity. However, hope was revived when as I was passing the tree on May 1st, both birds were on it. On the 7th I determined to see if a new nest had been begun. Imagine my surprise and delight on seeing that there was another nest and it held eight eggs. The pair must have started working at their second nest immediately after the first was destroyed. I thought it very strange that they should return to this hole after my hatchet had made such a great alteration.

The nest was not disturbed until the 9th, when as it still held the same number, the eggs were taken. On blowing them it could be seen that they were incubated evenly, about five days as the eyes and soft bones were formed.

The bottom of the cavity where the nest was built was about eight inches wide and the space not occupied by the nest was thickly covered with bits of bark such as I had found in the other hole.

Whether or not this pair had the courage to nest here again I do not know, as I did not visit the place again. Each visit to these woods required a walk of four miles, so everything considered, it is not surprising that I look on these eggs with so much esteem.

Nesting of the Yellow-throated Vireo.

BY FRANK L. FARLEY, ST. THOMAS, ONTARIO.

Previous to this summer I was unacquainted with this bird. On the 6th of last May, while walking through a piece of high woods, the notes of a strange bird struck my ear. At the time I thought it was a Vireo, but not knowing what species, I raised my gun and brought down a Yellow-throated Vireo (*Vireo flavifrons*). This was the first I had ever met with. Between that date and the 18th of June I did not hear nor see another specimen, but on the last mentioned date, while following a path adjoining the woods before referred to, I heard the scolding notes of some small bird. Looking up more from curiosity than anything else, I saw a little bird perched among the branches of a tall tree. At first sight, I knew it was this species. It kept up a continual "*Ich*," "*Ich*," "*Ich*," and thinking some cause existed for its apparent distress, I examined more closely and soon discovered a nest some forty feet from the ground, on the first limb of a lofty maple. It was a very difficult tree to climb and when the limb was reached I saw my work had only just begun. With my legs entwined around the tree and my hands battling with the mosquitoes, (at this time of the year swarming the woods) I had little means left for transacting business with my little feathered friends. However, after great exertion, I was well repaid by securing a very handsome set of eggs and the finest nest I ever saw. With the exception of being deeper, it is the shape of the Red-eyed Vireo's nest (*Vireo olivacea*). The dimensions of it are depth three inches and breadth about the same; the walls are quite thick. Outwardly it is composed of small bits of green moss, bits of wasps' nests and a very fine white material which I think is the capsules of spiders' nests. The lining is of the same material as the Red-eye's. The eggs are pearly white, with large spots of chestnut forming a ring around the larger end. The average size of the nest complement is .75 x .58 inches, making the eggs nearly spherical in shape. At the date of taking the above set incubation was far advanced.

I think the Yellow-throated Vireo will be found more common in Ontario as the collectors increase. Their favorite homes during their sojourn with us are in the high woods, so common to this Province. Their song is composed of five or six syllables emitted with much vigor.

In my estimation this species ranks the highest in the family (*Vireonidæ*) for song and plumage.

◆

Lincoln's Sparrow and its Nesting.

BY G. F. BRENNINGER, FORT COLLINS, COL.

The habits and breeding of the Lincoln's Sparrow (*Melospiza lincolni*) is rarely met with and but very little being known of its nidification, perhaps a short account of my experience with the bird may prove of interest to my many oölogical friends. The place where I first became acquainted with this species was at a considerable height in the Rocky Mountains, very close to 12,000 feet above sea level. While strolling along over a small level tract of land on the margin of the north fork of the Cache-la-poudre River, just at a point where the river made a sharp bend and its waters were rushing forward with that wild increasing rush which prevails so commonly in mountainous streams, I had been climbing up and around the rugged mountain sides until I was almost exhausted,and overcome by thirst I sought the cool supply afforded by the river to quench my thirst, and by so doing was how I came across the home circles of the rare Lincoln's Sparrow. The grass was some sixteen or twenty inches high, intermingled with dead limbs, overgrown and almost concealed from sight, so that while the naturalist's eye is following some bird as it passes from sight among the dark spruces which cover the higher grounds, at the next moment one may be not very agreeably surprised by being entangled in some such underbrush and concealed limbs, and tumbled lengthwise on the ground. I was carefully guarding against any such mishaps, and making my way for the river the best way I could. when I stepped aside to avoid a gully washed out by previous rains or melting snow. In so doing, before me, or rather a little to the side, I flushed a bird. At first sight it appeared very much like some small ground rodent beating a hasty retreat toward safety, but on closer examination I saw that it was a small brownish bird. Instead of flying it ran along the ground at an immense speed from its nest, which I was not very long in finding. Under an overhanging tuft of long green grass snugly concealed was the nest. It was partly sunken in the ground and roughly lined with dead grass, weeds, stems and a few pine needles. It was on the edge of the gully. The nest contained two young birds partly fledged.

I spent a few moments endeavoring to see the parent bird, which I succeeded in doing. The bird was unknown to me at the time, so I determined to obtain one, which I also accomplished, and afterwards learned its name. Fully satisfied I proceeded to the river's edge and there I quenched my thirst. I sat down to rest and to make entries in my note-book, and enjoyed myself watching the Rocky Mountain Bluebirds pass over.

The solitary yet pleasing note of a Water Ouzel was heard, which undoubtedly had its hidden nest of moss close by, though I failed to find it.

These birds are quite common above the elevation of 11,000 feet, and the coming season I hope will enable me to give the readers of this journal a more full account of this Sparrow with the color and number of eggs laid in a set. This latter fact I believe is not very fully established, as I see several authors of works on Ornithology of recent dates differ quite widely upon this Sparrow. Even at so late a date as July 5th, the day I spent on the river, a great many of the birds were still incubating their eggs, but in most cases they were far advanced.

◆

Early Appearance of Snowy Owl.

A Snowy Owl, the first of the season, was received by Mr. F. B. Webster, October 20th. It came from Vergennes, Vt.

Some Additions to the List of Birds of Bristol County, Mass.

BY C. L. PHILLIPS, DIGHTON, MASS.

In the list of the Birds of Bristol County, by Mr. F. W. Andros, in the September O. & O., I notice that there are several species that I have seen and collected in Bristol County that are not included in that list, as given below:

Pine Finch (*Chrysomitris pinus*). Seen in severe winters. I have taken a great many at various times; they are usually found breeding on birch trees.

American Titlark (*Anthus ludovacianus*). I have seen large flocks of these birds along the bank of the Taunton river.

[Note.—This species is very common and was accidentally omitted from Mr. Andros' list.—Ed.]

Connecticut Warbler (*Oporornis agilis*). I took this specimen September 9, 1885, and one more September 18, 1886.

Bohemian Waxwing (*Ampelis garrulus*). I saw two of these beautiful birds December 26, 1885. They were perched in a juniper in an old pasture. Not having my gun I did not secure them.

Recent Publications.

The Auk for October closes its fourth volume as the organ of the American Ornithologists' Union. An excellent likeness of the late Prof. Spencer F. Baird serves as a frontispiece. The open article is series third of a paper by W. E. D. Scott on "The Present Condition of Some of the Bird Rookeries of the Gulf Coast of Florida." But one conclusion can be drawn after reading Mr. Scott's interesting journal. "The Pine Finch *Spinus pinus* breeding at Cornwall, on Hudson, N. Y.," by J. A. Allen, and "The American Crossbill *Loxia curvirostra minor* in large numbers at Charleston, S. C." by Mr. Arthur F. Wayne were the titles of two shorter articles of interest. Mr. Wm. Lloyd concluded his list of birds of Tom-Green and Concho counties, Texas, and Chas. W. Beckham presented some "Additions to the Air Found of Bayou Sava La." A very terse yet comprehensive article upon genus *Helminthophila* was given by Spencer Trotter M. D., which was followed by the usual installment of Mr. C. B. Cory's "Birds of West Indies etc.;" an extremely technical serial. Mr. Henry K. Coale described a new variety of Junco *Junco hyemalis shufeldti* from New Mexico and gave a short account with illustrations of two ornithological curiosities which he had collected, viz., a Hawk with nine toes and a Bobolink with spurs on its wings. The "General Notes" are rather more limited than usual but possess the greater degree of interest.

American Naturalist.
Department of Agriculture Report 1887.
Forest and Stream.
Ottawa Naturalist.
Transactions N. Y. Academy of Science.
The Oölogist.
West American Scientist.
Scientific American.

Audubon.

As I am interested in John James Audubon, the great American naturalist, will you through the medium of THE ORNITHOLOGIST AND OOLOGIST, ask that a subscription be formed to raise funds for the erection of a monument to the memory of the great man. For if such is not done a great injustice will be done him.

JOHN F. TENNANT.

A Correction.

UNITED STATES NATIONAL MUSEUM,
UNDER DIRECTION OF
THE SMITSONIAN INSTITUTION,
WASHINGTON, Oct. 24, 1887.

Editors Ornithologist and Oologist:

Will you permit me to call attention to two manifest errors in "O. AND O." for April, which I do not find corrected in any of the subsequent numbers.

Error No. 1. The very interesting article on pages 58 and 59, entitled "The Pinnated Grouse in Colorado," of course refers to the Prairie Sharp-tailed Grouse (*Pediocœtes phasianellus campestris.*) I say "of course," because the Pinnated Grouse does not inhabit the region in question, where the Prairie Sharp-tail and, west of the Rocky Mountains, its more western representative the Columbian Sharp-tail (*P. p. columbianus*), take its place, and are known almost universally as the "Prairie Chicken."

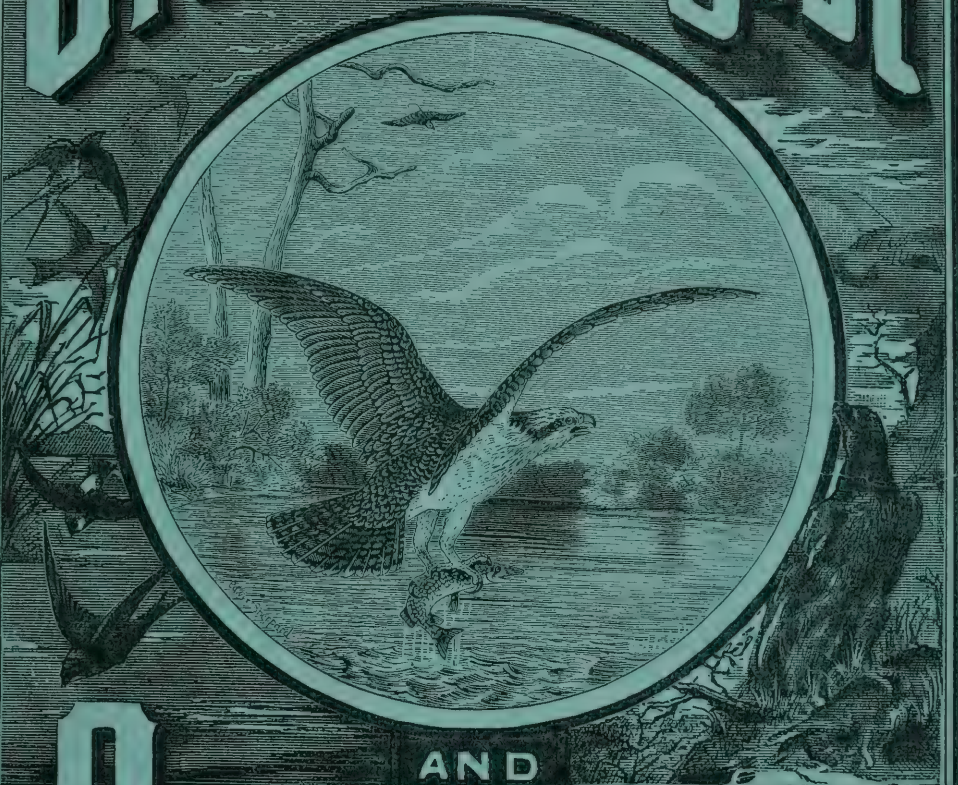
Error No. 2. The "Large Broad-winged Hawk," described on page 62 as "showing the same measurements as the Red Tail Hawk," is of course *not* the Broad-wing (*Buteo latissimus;*) what it is I am unable to say, without possessing some knowledge as to its coloration.

Yours truly,
R. RIDGWAY,
Curator, Dep't Birds.

DECEMBER, 1887.

VOL. XII. NO. 12.

Ornithologist



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VOL. XII. BOSTON, MASS., DECEMBER, 1887. No. 12.

The Spring and Fall Plumage of Our Shore Birds.

BY JOHN C. CAHOON, TAUNTON, MASS.

Under the above heading in the August number of the O. AND O., Mr. F. H. Carpenter speaks of the error into which many ornithologists have fallen in dividing the conditions of plumage of birds, especially those of order *Limicolæ*, and says: "That such a distinction of plumage should receive due attention and classification is without dispute, but when the division is based upon the change in seasons rather than age of the birds, some exceptions should be cited."

I am glad that Mr. Carpenter has opened this subject, as for some time I have been trying to find an opportunity to express my ideas concerning the plumage of our shore or beach birds, but should have neglected to do so but for Mr. Carpenter's remarks, which have drawn my attention to it. I have given the matter a careful consideration, and from my own experience have been unable so far to make any exceptions why the division of plumage should not be based entirely upon the age of birds rather than the change in seasons. In my following remarks, taken from notes of some seven seasons spent among our New England shore birds, I shall endeavor to throw as much light on the subject as possible.

That our shore birds receive less attention than any of our North American birds can be easily seen by looking through the columns of magazines and papers devoted to Ornithology. The inacessibility of their haunts, their erratic flights and wariness, renders it no easy task for the study of our *Limicolæ*. Their range of migrations is wide, extending from their northern breeding homes in the Arctic regions to the tropical countries below the equator, where most of them resort to in the winter. To observe their date of arrival and departure during their migration seasons, their plumage and habits, one must necessarily be out on their feeding grounds behind his blind and decoys in all kinds of weather, from early in the morning until late at night, for a variety that was rare to-day may become abundant tomorrow.

The plumage of all birds is a subject that I think requires more careful study than any other relating to ornithology. In most of our land birds the male has a brighter dress than the female, while in our shore birds there is no sexual difference in the brightness of plumage.

All birds are said to be in their brightest plumage in the breeding season, but that there are exceptions, and that some birds are brighter in the fall and winter, all ornithologists and collectors know. One that has especially come under my observation, both in the breeding and fall plumage, in which the fall is much brighter, is the Purple Grackle (*Quiscalus purpureus*).

I think all ornithologists will agree with me that it takes a certain number of years for a bird to attain the adult or full plumage, and the brighter and more conspicuous the adult plumage, the more seasons it requires to complete it. It may be that birds with plain dress require as many seasons to it, but there is so little difference in the young and adult plumage that we do not notice the length of time that it requires to complete it. Any one may see the different seasonal stages of plumage by looking over a number of skins collected in the spring, taking male orioles, tanagers, or any bright-colored species for examples. You will see quite a number of distinct stages from the dull plumage of the second season to the bright one of the adult.

In our New England shore birds, I think the Black-bellied Plover is the most noticeable in its different seasonal stages of plumage. In examining many specimens of this bird, I am cer-

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tain that it requires as many as four seasons at least for it to get its adult plumage. Taking spring specimens for instance, as at this period we do not find any in the young of the year plumage. We see specimens in the first changes of the young of the year into adult. being speckled with black on the belly and slight changes not seen in the young of the year. By examining closely, we can pick out specimens with the belly much speckled with black, about half changed into the adult plumage, and then the third stage, which will be very near the adult, having its belly mostly black, and its forehead and sides of neck showing ashy white, and then the last or adult with the under parts pure black and forehead and sides of neck pure white. We now see one of the handsomest of our shore birds with plumage so different from the young of the year that we can scarcely believe it to be the same bird. This adult or full plumage, which has taken four seasons to perfect, is retained I am sure on the New England coast in the fall. The above changes I have noticed will apply to the Golden Plover (*Charadrius dominicus*), Red-breasted Snipe (*Macrorhamphus griseus*), Robin Snipe (*Tringa canutus*). Sanderling (*Calidris arenaria*), and several others.

The adult bird arrives in the fall migration first, and is followed in a month or six weeks by the young of the year, and I have noticed that the birds in adult plumage are closely followed by those in the mixed dress and then the young of the year. I think the reason why the young of the year do not arrive with the adults or older birds, is that that they are not matured enough to make the long flight the older birds do when they leave their northern homes. That where we see one bird in the adult plumage in the fall, we see many in the immature, is due partly from the fact there would be more young after the breeding season than old, and partly that the old birds migrate further South, and being more wary fly far out to sea, only a few touching on our New England coast. I have noticed that most of the shore birds seen on the Florida coast in the winter are young birds. I collected and observed Sanderlings at all times during the winter and into spring, and did not take one in adult plumage, or see any changing into that until all at once they began to put in an appearance in adult plumage. The New England shore birds that I have had an opportunity to study at the spring and fall migrations, and which I found to retain their adult plumage in the fall, are as follows:

Turnstone (*Strepsilas interpres*).
Black-bellied Plover (*Squatarola helvetica*).
Golden Plover (*Charadrius dominicus*).
Semiplamated Plover (*Ægialites semiplamatus*).
Piping Plover (*Ægialites melodus*).
Wilson's Snipe (*Gallanago media wilsoni*).
Red-breasted Snipe (*Macrohamphus griseus*).
Robin Snipe, or Red-breasted Sandpiper (*Tringa canutus*).
Pectoral Sandpiper (*Actodromas maculata*).
Bonaparte's Sandpiper (*Actodromas fuscicollis*).
Least Sandpiper (*Actodromas minutilla*).
Semiplamated Sandpiper (*Ereunetes pusillus*).
Sanderling (*Calidris arenaria*).
Greater Yellow-legs (*Totanus melanoleuucs*).
Yellow-legs (*Totanus flavipes*).
Buff-breasted Sandpiper (*Tryngites rufescens*).
Spotted Sandpiper (*Tringoides macularius*).
Hudsonian Curlew (*Numenius hudsonicus*).
Eskimo Curlew (*Numenius borealis*).
Stilt Sandpiper (*Microphalama himantopus*), taken in the fall in the changing plumage of young into adult. There are several other shore birds that I have taken specimens of in the fall, but as they have passed out of my hands, I am not certain what plumage they were collected in.

I have not seen any specimens of Red-backed Sandpipers (*Pelidna alpina americana*), in full adult plumage in the fall, the first arrivals wearing mostly adult plumage, but as I have been informed by gunners that they have shot specimens in full adult plumage in the fall, I cannot make a single exception as yet of our New England shore birds not retaining their adult plumage in the fall.

We should be pleased to hear from our correspondents on this subject, the plumage of our *Limicolæ*.

Up a Stump.

BY WALTER HOXIE.

My woodpeckers have gone; I don't know when they went, but I missed them to-day. I ting around that way to see how they were get- went along but the old stump was silent and deserted. They have been great company for me ever since I found them carpentering away so busily one breezy day last spring. (What I really wanted was to get their eggs, for naturalists are all thieves by instinct, although on rare occasions they submit to really moral instincts). In this case the nest was too high to reach easily, and the old pine stump was so decayed at the foot as to rock and feel very insecure when I essayed to climb. I was very glad on the whole to be alone, for if any one had been along to hint that I was afraid of a tumble, I should have undoubtedly gone to the top and had some eggs of the Pileated Woodpecker. As it was I had watched them too long, and as usual in such cases, I hadn't the heart to play a mean trick on this couple of new acquaintances that were just setting up housekeeping, so I sat myself down behind a long screen of moss that depended from a cedar bough, and while I lunched and smoked, continued to watch the movements of the pair. At first, they were quite anxious. Their black and white plumage and gaudy scarlet crests glanced fitfully about from time to time. They were silent too for some time. At last, the male came and stood on the top of the stump for some time and took a careful survey of the surroundings. He seemed on the whole satisfied, but to make assurance doubly sure, he had recourse to a clever ruse. He flew screeching through the woods two or three times, seemingly with an effort to be as conspicuous as possible, and then settled on the side of another stump some ways off and fell to digging away with might and main, pausing every now and then as if to see if his actions would not decoy the suspicious looking intruder away. His mate was the first to conclude that their visitor was harmless however, and when she had once settled to her task in earnest, her mate was profuse in his offer of aid. Every time she left the hole with a mouthful of chips. he would slip in and pound and scoop away till she came back, when he in turn would gather up his bundle and make off. I noticed that they had this habit in common with the Ivory-bills that used to be about here. No chips or litter were left about their dwelling. All the debris was carried away and deposited, and not often in the same place. When my pipe was out, I watched my opportunity and stole quietly off while madam was away and her spouse inside. Over a week elapsed before my next visit. Madam was at home and evidently brooding. Her sharp bill and white chin showed for an instant in response to my knock below. I heard her mate belaboring some dead trees at no great distance, and it was not many minutes after I had sought my place of concealment before I caught sight of gay dress coming in very scalloping flights through the lights and shadows of the pines. He brought some dainty tid-bit to his patient better half, and was away again without a pause. In fact, he did not really close his wings while supplying Madam with her needed sustenance, but clung fluttering for a few brief seconds while she received her grub—slang, perhaps, but yet a literal fact—and then swung oft in quest of more. He was seldom away over ten minutes at a time except on one occasion, when I purposely frightened him in order to secure his prize. It took very little arithmetic to determine that his day's labor must result in the destruction of about sixty-five of those insects, and during the next two weeks, I counted no less than eight old decayed stumps and logs that he had completely pulverized. I now caught him at work upon a living tree, and this caused me some speculation. I question whether my friends saved any valuaule timber in their struggle for existence. Their prey consisted of insects that attack trees already dead. The heart wood borers that sap the life of a tree, and the swarming caterpillars that devastated the foliage, seemed both to be exempt from his attacks. But each of these had its appropriate feathered enemy, as I very well know.

It was eighteen days later when I became convinced that there were babies in the home. The response to my usual summons was a report like hissing. Both parents likewise manifested the greatest anxiety at my presence, which had during my frequent visits got to be looked upon as quite a polite attention I thought. The head of the family seemed to work himself up into quite a rage, and, in fact, I began to fear he would resort to personal violence. So I didn't stay long; I reflected that this was a new thing, no doubt, and my friends were excited and agitated, and I promised myself to return soon when every thing was settled and running smoothly.

The next night I shall long remember. I had been at the beach, and the weather worked bad, very bad indeed. I would have started for home in the middle of the afternoon, but there was no wind and the tide very strong and against me. All the sky was covered with "mares' tails," and up in the northeast lumps and masses of clouds began to form. Just at night-fall, the voice of the sea sounded from that way too, and little ragged racing clouds came along looking rosy in the twilight, when a little puff of wind came and I was off. In less than ten minutes it was blowing a gale, gusty and squally, and I was close hauled, pitching into the short waves of the sound and holding to the steering oar for dear life. It grew darker and rougher every minute, and the little boat fairly flew. I wouldn't have cared if I could only have seen where I was going, but the night was like a wall of ink. At last, I concluded that the boat was getting too full of water, I couldn't see how much she was shipping but things felt heavy all round, and when she rose on a wave she had not the right swing to her. So I squared away before the wind and put her head for shore, concluding that it was better to spend the night in the marsh than to swamp. And, somehow, instead of striking the marsh, I blundered into the mouth of a creek and had a brief breathing spell. Then a littie break in the clouds lighted things up, and I saw where I was. A mile or so more would fetch me to a landing and away I skimmed for the shore. But if it was a wild night on the water, it was wilder on shore. The oaks groaned and roared, and the pines fairly shrieked when a stronger wind took them. Branches were snapping and falling all about, and once in a while an indescribable sort of roar told that a big tree had given away. Then the rain came, not in sheets but solid. That was the last I knew. I was astonished when I awoke in the morning to find I had been asleep. So I got out my gun and started to look for a breakfast. My way led me past the woodpecker's home. The stump had blown down, not quite to the ground, however. It had lodged in the crotch of a live oak, and the little family were now in plain sight, for the top had broken off leaving it roofless. They were four of the most hideous looking objects that the imagination can conjure up, and the old folks were now more solicitous for their safety than ever before. I thought the mother bird would fly in my face. She bounded against me several times with her wings, so after satisfying my curiosity I retreated.

Since then, however, we have got better acquainted, and when the young ones got to scrambling around on the stump, they knew me so well that they would flutter their wings and stretch out their necks for a blackberry if I offered them one. The old mother too would come and feed them close beside me. Last week, they crawled up my sleeves, but when they got as far as my neck I had to expostulate. Their claws were just a trifle too sharp, and I disengaged them as quietly as I could, but quite rapidly.

Then I left them in the clear summer sunset, as comical a little group of bird life as any one could wish to see. And to-day they are gone; I didn't know that I should miss them so much.

Notes on the Nesting of the Red-tailed Hawk in Illinois.

BY DR. W. S. STRODE, BERNADOTTE, ILL.

Perhaps in no other section of Illinois is the Red-tail (*Buteo borealis*) so numerous as it is in the Spoon River County around the village of Bernadotte, for here is to be found every form of river, creek, hill and prairie land.

The hill and flats covered with large and small timber, with a lining of hazel and finer brush underneath, is favorite habitat of the gray rabbit and other small rodents that furnish the chief food supply during the nesting season of this hawk and his interesting neighbor, the Great-horned Owl (*Buteo virginianus*).

During the winter season only an occasional Red-tail is to be seen, but with the first indication of spring, in early March, they appear in considerable numbers already mated; and from this time to the end of the breeding season, about May 15th, they constitute a lively and interesting feature of the landscape, giving it variety and animation. After this they disappear, where I do not know. Probably to some of the cool health resorts of the north. At any rate the sight of one during the hot summer months is a rare occurrence. They reappear again with the fall migration, in late September or in October, and a few remain with us throughout the winter.

In choosing a nesting site they usually select a very tall tree, standing on a side hill or at the head of a hollow, placing the nest among the topmost branches. This tree is frequently chosen with an eye to its non-climbability and is often forty feet or more to the first limbs.

In the last few years the demands made on the larger growth of hickory and oak by the lumber dealers of this county has destroyed many of the favorite nesting localities of the Red-tail and they have been driven to seek nesting places elsewhere.

Here again they have displayed almost human sagacity in selecting the gigantic cottonwood and sycamore trees of the river bottom, instead of the more numerous but less high elms and soft maples.

In these trees, with the nest almost among the clouds, they would have no fears of a visit from the oölogical collector, for in some positions in which I found their nests last season, no collector unless he wished to commit suicide, would think for a minute of climbing.

On the bank of the "Classic Spoon," a half mile above the town, stands one of these lofty trees, a giant sycamore twenty-one feet in circumference, that has been used as a nesting site by these hawks time out of mind. Many a time has the sportsman with murderous intent sent up from the river below a charge of shot at the brooding parent bird, but usually with no effect, except to frighten her.

In the spring of 1885 a young man aimed with an army musket, heavily charged with large shot, and gave the female her death wound as she perched on the edge of the nest feeding her young. She simply settled down over the domicile, spreading her wings across it and over her baby birds and expired, and for months afterwards her dead body was to be seen in this position, a silent yet eloquent reproach to the cruelty and rapacity of the great destroyer man.

The next spring, 1886, the male appeared with another mate, and after hovering about the old tree for a few days they left it and went to a wooded slope a half mile away, and in a large white oak built a nest and reared their young. Probably evidences of the foul murder committed a year before still remained at the old nest and decided them against using it.

Last spring, 1887, they appeared about March 1st and at once set about repairing the old home in the sycamore, and for two weeks, during which time I was making professional trips up the river in my boat every two or three days, they came under my observation, and with no thought of doing so at first, the desire began to develop and grow upon me to scale that tree and secure the contents of that nest, until finally on March 12th I gathered together a coil of rope, a ball of string, my climbers and an axe. I was accompanied by a friend and we repaired to the tree and at once set about devising the best means to get up to the forks, about thirty feet high. We finally decided to cut a hackberry sapling that grew near by and by trimming up about twenty-five feet of it we succeeded, after much tugging and lifting, in elevating it against the side of the tree. Putting on my climbers, I went up this and from the top was enabled by the aid of the sap-sprouts that here sprung out to get over into the forks of the tree. After resting a few minutes I now went on rapidly towards the nest until I had come within ten feet of it. I then made the startling discovery that the limb on which the nest was placed narrowed down to the thickness of my leg and was hollow and full of Woodpecker holes on the under side. It was a rather ticklish condition of things and I was a hundred feet from the ground. But my blood was up and I had come too far to back out now. Cautiously and slowly I went on up until with one hand I reached over into the nest and grasping the two eggs it contained, I quickly slid down the limb two feet and there rested. Putting the eggs into a mitten I attached the ball of string to it and safely lowered them to my companion below. The hawks all this time were perched just over my head, constantly uttering their shrill screams. I made the descent safely and after reaching *terra firma* presented much the appearance of having been rolled in a flour bin.

Of this hawk I took last season nineteen sets of eggs, about half of them being sets of three. The nests invariably were made of sticks and twigs from a half inch in diameter down. The lining in most cases was of grape vine bark and oak leaves, with occasionally a few feathers or bits of moss.

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Transportation of Eggs in the Field.

BY A. M. INGERSOLL AND WALTER E. BRYANT.

Various devices are used for safely carrying eggs in the field, for at such times more care is needed to prevent their breaking than after the contents have been removed.

We presume that no one at the present day attempts to prepare specimens in the field, and that the time is now past when the eggs of even the common species are entrusted to a tin can filled with meal or sawdust, in preference to a wooden box and cotton.

The safest and most convenient method, and one which we have adopted after repeated tests — and we believe we have tested all — was designed about eight years ago by Mr. D. S. Bryant, and is now in use by many prominent collectors with very gratifying results. It consists of a wooden box with hinged cover, but cigar boxes will answer with but slight alteration. The bottom, on the inside, is covered with a piece of thick cloth or cotton wadding, and upon this is placed a framework of cardboard spaces similar to those employed in partitioning cases for shipping hen's eggs. The cardboard should not reach to the top of the box, space enough being left to lay on a piece of cotton wadding like the one on the bottom. Pieces of cotton wadding or cloth, cut the same width as the cardboard strips, are used to line the spaces. It is best to place only one egg in each space and so perfectly protected are they by the soft cotton about them that we have not yet broken an egg in this style of box, when only one specimen occupied a space.

It is not essential that the egg should completely fill the space, but when the egg is much smaller than the space it is well to put a piece of cotton over it to prevent too much play.

The small boxes may be carried in your pockets, or in a fish basket, which will also serve to bring back nests. Large boxes, if several are taken, can be strapped together, and carried by hand or as a knapsack.

We have found three sizes to answer for all general collecting and later in the season the largest will not be likely to be required. The smallest box, which holds eighteen, will accommodate specimens the size of a Robin's egg or smaller. In this size we have carried Hummingbird's eggs on horseback, but a piece of cotton had of course been placed over the eggs to steady them and the lining was very soft, new blanket having been used for this purpose.

Boxes of this size should measure about six and one-half inches long, by three and one-quarter wide and one and one-half inches deep inside.

The second size is spaced for eggs as large as a Crow's, and in those partitions several small eggs may, in case of emergency, be packed, if cotton is wrapped about them to prevent their knocking against each other.

The largest size, excepting special ones for Eagle's eggs, is carried only during the first part of the season, or when collecting sea bird's eggs. It is intended for the large Hawks, Gulls, etc., and requires heavier packing on the top and bottom as well as in the spaces. A rubber band is useful to hold the cover closed.

With this style of collecting box considerable time is saved in the field, while the security ensured by their adoption should recommend them to the use of all collectors. It is a deplorable fact that more than fifteen per cent of the sets received by us in exchange have been damaged through careless packing and in nearly every case the loss could have been avoided by observing some of the causes which have been often noticed by writers.

Cigar boxes make excellent shipping boxes if they are strengthened by additional nails and cross pieces, or cleets, in each end and the middle. This prevents the lid from being crushed in, and it is well to test the strength of a box before packing by standing upon it with one foot and if it will support your weight on top, bottom, ends and sides it may be deemed safe to send through the mail. It is a mistaken idea that tin boxes are suitable for shipping. If you doubt this, pack a set of rare eggs in a yeast powder can and test the side in the way just mentioned for wooden boxes.

Having prepared a strong and light box, wrap each egg securely with cotton wadding and roll up in a strip of tissue paper, fold in the ends and tie the package with thread. If the ends of the roll are twisted they occupy more space and do not pack as conveniently. Upon the paper, before wrapping, the name, number or set mark may be written.

Where the Nest Complement is Two Eggs, an Interval of More than a Day Elapses Between their being Laid.

BY R. B. MCLAUGHLIN, STATESVILLE, N. C.

In the August number of the O. AND O. Mr. J. Parker Norris, commenting editorially, on an article by Mr. Hoxie, says: "More mistakes have been made by writers in the statement of the number of eggs laid by certain species than in any other branch." This recalls a statement made in an article on the Hummingbird, by Charles Wilkins Webber, the author of "Wild Scenes and Song-birds," "The Hunter Naturalist," and I learn from a brief sketch, of "Some valuable contributions to Natural History." Having described his finding a hummer's nest, Webber, in the article in question, continues:—"Having climbed up first, so as to show her, my sister followed — the girls *used* to climb like squirrels, in Kentucky, in my young days! — and many were the expressions of childish delight as she peeped over and saw these *three* little eggs," etc.

Is natural history benefited by such valuable contributions as this? I thought it was settled that the hummers lay but two eggs. I have examined hundreds, and I say hundreds because I have examined that many of the nests of the Ruby-throated (*T. colubris)* and have never known more than two eggs in a set to occur. I have also found a dozen or more nests containing one egg each, in various stages of incubation, but on several occasions found the broken shell of the missing egg on the ground beneath and believe the other wanting ones had a history also.

I am quite sure that the usual number is two and do not believe the bird ever lays more, and my reason for so believing brings me to what I wish to say concerning the birds that invariably lay two eggs in this section, which is this: *one day elapses between the days on which the first and second eggs are laid*—that is if the bird lay its first egg on Monday, it will miss Tuesday and lay the second on Wednesday. I first observed this some years ago by watching nests of the domestic Pigeon and have since devoted much time to the class of birds which lay two eggs. I have examined many nests of Ruby-throated Hummingbird, Whippoorwill, Nighthawk, Turkey Buzzard, Black Vulture and Mourning Dove, and all were found to conform to the above rule. I have never seen this fact mentioned by any writer, nor have I met with a collector who had noticed it, and Mr. Norris writes me that he is confident it has never been mentioned in any work on ornithology and oölogy. To me it seems almost incredible that so curious a thing should have been entirely overlooked by all naturalists, and it was with some hesitation that I decided to mention the fact so far in advance of the coming season when the proper investigations may be made; however, I have the satisfaction of knowing that when the matter is tested my statements will be verified.

It is well that the oölogist should be informed of the elapsing of this interval as he may allow sets to be completed which he would otherwise take while incomplete.

I earnestly desire the coöperation of collectors everywhere, specially those who have opportunities to observe the Western Hummingbirds, Ground Dove, Chuck-will's Widow and others whose normal number is two, and if they conform to the same rule—and by analogy it would seem they do—the natural deduction will be that where this uniform interval occurs between the depositing of the first and second eggs, two *complete* the set and when a third egg appears it is laid by another bird.

Although this should serve only as a means of ascertaining what species lay but two eggs, it may go just so far in determining the vexed question of how many eggs constitute a set. Therefore, it is hoped that collectors will give this class of birds the attention they deserve, and let their fellow collectors have the benefit of their observations. To the thoughtless one who may otherwise think me in error, I will say that the nest may be completed and one egg laid when found and should he return on the following day and find the set complete, this only proves the first egg had been deposited one day prior to the finding.

Omissions From the List of the Birds of Bristol County, Mass.

BY A. C. BENT, TAUNTON, MASS.

In Mr. F. W. Andros' list of birds of this county in the O. AND O. for September, 1887, I noticed the omissions of several species which occur tolerably regularly, and others which are considered very rare or accidental.

The most noted of these species is the Yellow-bellied Sapsucker (*Sphyrapicus varius*). This bird, although by no means common, could hardly be overlooked by collectors of any experience.

As a summer resident it is very rare, although I have had eggs brought to me said to be of this species. It occurs in Bristol County as a fall migrant in rather sparing numbers. I have never seen it in the spring. It frequents the same localities as the Hairy Woodpecker, being more often seen in the woods than in open places. The birds are shy and rather difficult to shoot on account of their knack of keeping out of sight; they dodge around the trunks of trees so skillfully that it requires considerable patient waiting to shoot them. I have three records of this bird for this fall.

Another bird, not included in the list, came to my notice several years ago, viz., the Blue-gray Gnatcatcher (*Polioptila cœrulea*).

This is an exceedingly rare bird in this State, and probably only an accidental straggler from the South. A farmer residing at Nippenicket Pond brought me an egg, unquestionably of this species, which he found in a small nest resembling a Flycatcher's, built in the fork of a small fruit tree. His description of the nest and bird, which I was unable to procure, coincided with this species, and I know of no New England egg with which it could be confused. Of course, this is rather poor authority on which to establish a record, still I mention it to show that the species might occasionally be found to breed here. Audubon says he "saw it on the border line of Upper Canada, along the shores of Lake Erie." On Dr. Brewer's authority, it is found in Massachusetts and as far north as the Canada line, and Dr. Coues states its habitat as North to Southern New England.

Only one species of *Oidemia* was mentioned, *O. perspicillata*, or Surf Scoter, commonly known by the gunners on the coast as the Skunk head Coot. In addition to this species, we have the Velvet Scoter or White-winged Coot (*O. fusca*), which is more common than the preceding and the American Scoter or Butterbill Coot, *O. americana*, which is rarer, but found under the same circumstances. The young of *O. perspicllata* and *O. americana* resemble each other very much and can easily be confused, which accounts for the latter being often overlooked.

Mr. Dexter, in his article on the *Limicolæ* of this county, records only one authentic specimen being taken of the Yellow legs, *Totanus flavipes*, and the Solitary Sandpiper, *Rhyacophilus solitarius*.

My experience with these birds has been far different. I have found the latter bird common in different parts of the county, and have shot a great many of them. The former bird occurs very regularly every year in company with the Greater Yellow legs and Red-backed Sandpiers in September.

I think if Mr. Dexter would take a trip to the Norton Reservoir after a northeast storm late in August or in September, he would find plenty of both kinds of Yellow legs and Solitaries as well.

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Can Birds Control the Laying of Their Eggs?

BY J. P. N.

The question as to whether birds can control the laying of their eggs or not is a very interesting one, although but little seems to be known about the subject.

Dr. Coues says in the *Key*, page 223, that "it is difficult to say how quickly an egg may ripen in the ovary; for, during the activity of that organ, several or many are to be found in all stages of immaturity and the date of the initial impulse cannot well be determined. As there is probably but one egg at a time in the oviduct, the whole process of finishing off the yelk-ball with its chalaziform, soft albuminous, putaminous, and calcareous envelopes may go on in twenty-four hours, most of which time is consumed in the shell formation." But he does not tell us, nor does any other author whose work is known to the writer, how it is that when a bird, whose full complement of eggs is four or five, has the misfortune to have a Cowbird deposit an egg in her nest, the female will then often stop laying after the intruder's egg is placed there, even if only two or three eggs are laid, and at once proceed with the duties of incubation. What becomes of the eggs which have been gradually ripening in the ovary? That such is the case there is abundance of proof. How otherwise can the fact of the many incubated sets of eggs, of less than the normal number, that are found every year, with Cowbird's eggs, be accounted for?

Another curious question will occur to many in this connection. A bird lays the normal set. Incubation is commenced, and in the case of a species that does not raise a second brood, it may be presumed there are no more eggs forming in the ovary. The bird is then deprived of her set of eggs, and in a very short time she often commences to lay again. This has been known to occur several times, until at last the eggs will frequently be much smaller, or deficient in coloring matter. In the case of the Flicker (*Colaptes auratus*) there are instances on record where an egg has been removed every day, (leaving a nest egg) until the bird has laid over forty times in succession.

Again, if a bird, whose normal set is five or six eggs, is deprived of them after she has laid only two or three, what becomes of those which are forming in her ovary, and which would, in the ordinary case of nature have been laid on the following days?

These are all interesting questions, but there has been very little light thrown upon them by writers, and the above thoughts have been put into words in the hope that some one who reads them, may be able to explain some of these matters which have often puzzled him who has here set them down.

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A Series of Eggs of Myiodioctes mitratus.

BY J. P. N.

The eggs of the beautiful Hooded Warbler (*Myiodioctes mitratus*) do not show as great a variation in size and coloring as those of many other species of Warblers, but still the study of a series of them will reveal many differences.

The following series of eleven sets were all collected by the Hon. John N. Clark, with the exception of Set II, which were taken by Mr. Arthur T. Wayne.

Set I. May 27, 1887. Saybrook, Conn. Four eggs, fresh. Creamy white, speckled at the larger ends with dark reddish brown and lilac. The markings are principally confined to the larger ends: .66 x .51; .69 x .52; .68 x .53; .69 x .52.

Set II. June 7, 1886. Charleston, South Carolina. Four eggs, fresh. White, quite glossy. Marked with specks of lilac and reddish brown, and a few spots that are almost black, which form indistinct wreaths near the larger ends, and leave the remainder of the surface immaculate: .70 x .54; .70 x .55; .69 x .53; .72 x .55.

Set III. June 6, 1887. Saybrook, Conn. Four eggs, fresh. Creamy white, speckled and spotted more or less all over the surface with very light reddish brown, as well as a few spots of a darker shade of brown, and lilac. The markings are closer together near the larger ends, where they form indistinct wreaths: .68 x .53; .70 x .54; .68 x .53; .70 x .55.

Set IV. June 4, 1885. Saybrook, Conn. Three eggs, fresh. Creamy white. and quite glossy; two of them are marked with a profusion of specks and spots of bright reddish brown and lilac, which are principally at the larger ends. The third egg has very light reddish brown and lilac spots, in the form of a wreath at the larger end: .74 x .54; .74 x .55; .72 x .54.

Set V. May 31, 1887. Saybrook, Conn. Four eggs, fresh. Creamy white, speckled and spotted with light reddish brown and lilac. The markings are larger and thicker at the larger ends: .71 x .55; .70 x .55; .68 x .53; .68 x .53.

Set VI. May 26, 1887. Saybrook, Conn. Four eggs, fresh. White, speckled and spotted with reddish brown and lilac, chiefly at the larger ends, where they form wreaths: .67 x .52; .69 x .53; .70 x .55; .65 x .54.

Set VII. May 28, 1878. Four eggs. White, spotted and speckled with dark reddish brown and lilac. The markings are almost wholly at the larger ends, where they form indistinct wreaths: .71 x .54; .71 x .55; .75 x .56; .73 x .55.

Set VIII. June 3, 1886. Saybrook, Conn. Four eggs, fresh. Glossy creamy white, quite pointed for this species. Marked entirely at the larger ends with light and dark reddish brown and lilac spots and specks. The markings are more at the larger ends of the eggs in this set than in any others in the series, and when looked at from the smaller ends the eggs appear *entirely unmarked*. This is a very odd effect, and the writer has never seen another set of eggs of any species which lays marked eggs in which this curious phenomenon is apparent. It is caused by the markings being confined to the very tops of the larger ends, and the largest circumference of the eggs at their broadest point being entirely unmarked it prevents the spots at the tops from being seen: .75 x .53; .73 x .54; .72 x .53; .73 x .55.

Set IX. June 4, 1886. Saybrook, Conn. Four eggs, slightly incubated. Creamy white, quite heavily wreathed near the larger ends with bright reddish brown and lilac: .70 x .54; .71 x .52; .69 x .52; .68 x .51.

Set X. May 27, 1887. Saybrook, Conn. Four eggs. Creamy white, with some gloss. Wreathed near the larger ends with spots of bright reddish brown and lilac, with a few dark reddish brown ones; the remainder of the surface of the eggs is immaculate: .68 x .52; .72 x .53; .70 x .53; .68 x .53.

Set XI. June 4, 1886. Saybrook, Conn. Four eggs, fresh. Creamy white, beautifully wreathed near the larger ends with very bright reddish brown and lilac — the latter color being almost imperceptable in some of the eggs. This is decidedly the handsomest set in the series: .70 x .55; .69 x .55; .69 x .54; .69 x .55.

Notes From Raleigh, N. C.

1887.

BY C. S. BRIMLEY.

Bachman's Sparrow (*Peucæa æstivalis bachmani*). Took a specimen of this bird on March 19, and another on April 12. We have only taken five specimens of this bird here, one on April 1, 1885, and two (a male and female, evidently mated), on April 21 of same year, and the two mentioned first. I think from its known range that this bird is a rare resident, or perhaps summer visitor here. All five specimens, except the second of those killed on April 23, 1885, were shot as suspicious characters, and several commoner species of sparrow have at different times fallen victims to the same suspicions.

Red Crossbill (*Loxia curvirostra*). Killed one out of a small flock on June 5, and saw the same flock again in the afternoon. I took four of this species in March, 1884, as recorded in the O. AND O. for that year, but hadn't observed the species since, and was surprised to see them in summer.

Purple Gallinale (*Ionornis martinica*). We observed one of this species on June 5, and my brother killed one, propably the same, on June 6. This is our first record for this species in this locality.

King Rail (*Rallus elegans*). Two broods were hatched in this locality in one of our best known meadows, and we knew nothing about it till we were informed of some wonderful birds that had been seen there by some negroes, and which were variously said to be "Injun hens," swamp ducks, etc. Thinking there might be something in it, I explored the place next day, but only heard one Rail and couldn't flush any. So the day after, June 22, both of us started out with our dog and secured two adult Rails and two little ones in the down, which latter the dog set and we caught. On June 27, we shot another old one and a young one about half grown, belonging to an earlier brood than those in the down, and later on in July we took several more, an old one and two minature birds nearly in full feather. Not a single one of all these could we have obtained without the aid of our dog, who was quite invaluable in driving them from cover into more open ground. This bird nested here in 1885, and again this year, and probably did in '86, as we did not frequent their haunts much about that time, and very probably overlooked so skulking a bird.

The spring migration had few features of interest about it except in individual captures, two points, however, deserve noting. First, Blackpoll Warblers, usually when here our commonest migrant, were quite scarce, only three being observed; and secondly, the cedar birds failed, for the first time in six years, to come and eat up the mulberries, only two of these being seen, instead of the hundreds of former years.

Some of our more noteworthy captures were Osprey (April 13), two Bitterns (April 2 and 23), Prothonotary Warbler (April 18), Bartramrian Sandpiper (April 27 and 29), a male Rose-breasted Grosbeak, our third specimen, (April 28), Bicknell's Thrush (May 5), Kentucky Warbler (May 9), the Bicknell's Thrush and Prothonotary Warbler, being both new species to us. The season on the whole has been a favorable one, though nothing at all extraordinary in the way of captures.

Eggs of Dendrœca chrysoparia.

BY J. P. N.

The eggs of the Golden-cheeked Warbler (*Dendrœca chrysoparia*) are extremely rare. The bird itself is very rare, and only occurs in a limited range. Mr. Ridgway, in his recently published *Manual of North American Birds*, gives its habitat as "Central Texas, and south to highlands of Guatemala," but the only specimens which the writer has seen were shot in Comal County, Texas, by Mr. G. B. Benners. The latter gentleman is of the opinion that the bird is apparently confined to an area of about ten miles square in that County, which he describes as being "very sterile and barren, and the only trees are stunted live oaks and red cedars." During Mr. Benners' visit to that locality in 1884, only a few of the birds were seen and shot, although his companions and himself often went in search of them.

The nests, of which three were found, were all built in red cedar trees a few feet from the ground. In one case the height was ten feet, and in another only five. One of these nests is described by Mr. Benners as having been "about half way out on a branch, and was composed of strips of the bark of the cedar tree, lined with feathers and down. It was very neatly and compactly built, and measured two and a half inches in diameter on the outside, by two inches in depth. The outside diameter was one and a half inches."

Subsequently a few more nests were found in the same part of Comal County by another collector, and it has been my good fortune to secure three of them.

Set I. Creamy white, speckled and spotted with light reddish brown and lilac. The markings are heavier and closer together near the larger ends: .65 x .52; .63 x .51; .65 x .51; .64 x .51.

Set II. Creamy white, with a slight gloss. Speckled and spotted with a lighter shade of reddish brown than Set I, and with less lilac. In two of the eggs the markings form indistinct wreaths around the larger ends, and in the other two the specks are larger near the larger ends: .61 x .51; .64 x .50; .62 x .51; .66 x .50.

Set III. Creamy white, spotted and speckled with darker reddish brown than either Sets I or II have, and also with lilac. The markings form distinct wreaths near the larger ends, and the spots are more prominent; taken all together they are by far the handsomest set of the three: .68 x .52; .68 x .52; .67 x .49; .67 x .50.

Something New About the Flight of Birds.

BY C. C. TROWBRIDGE, NEW HAVEN, CONN.

Hoping that it may prove of interest to the readers of the ORNITHOLOGIST AND OÖLOGIST I wish to call attention to a discovery I have made in regard to the emarginate cutting of the primaries of some of our birds. I speak of this as a discovery, as I can find no reference in any work of Ornithology to the fact I am about to describe.

Most of the readers of the O. AND O. know that a few of the first primaries of many birds (as the *Raptores*, some herons, and a few other birds), are cut emarginately in a peculiar way. Now these birds are often on the wing for hours at a time, and as the muscle that opens the primaries pulls on a lever of the second order, the strain on that muscle would be very great to constantly keep the primaries open. But there is a way by which this muscle can be relieved.

The bird contracts the extensor muscle that governs the first five or six primaries, at the same time giving a slight rotary motion, so when the extensor muscle is relaxed, the primaries that are emarginate are locked into one another, the first feather behind the second as far as the cutting goes, the second behind the third as far as its cutting extends, and so on with the rest of the primaries.

This locking relieves the muscle and leaves the primaries extended without muscular exertion. The process of unlocking is very simple, and entirely under control of the bird. It will be noticed that the upper edge of each feather is cut down to correspond with the cutting of the lower margin of the preceding feather. Thus, the feathers are not only locked, but have a firm bearing against each other to resist the pressure of air underneath the wing.

This is not confined to soaring birds alone, but it is safe to say that whenever this emarginate cutting is found, it is to enable the bird to lock its feathers.

This is not a matter of speculation, but observation upon birds which have been shot. A full description and cut will be published in the next number of "The Transactions" of the New York Academy of Sciences.

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Runt Eggs and Their Cause.

BY J. P. N.

Eggs of a smaller size than those usually laid by the species in question, are, if the difference is very marked, known as "runts." They usually occur in small numbers and are quite rare. It is seldom that more than one runt is found in one set of eggs, though a very notable exception to this rule will be referred to below.

Their cause seems to be twofold — either they result from exhaustion of the bird from laying an unusually large number of eggs, or they are the product of young females.

A set of eggs of Wood Thrush (*Hylocichla mustelina*) found near Milton, Mass., on May 26, 1883, has two of the eggs much larger than usual, measuring 1.13 x .94 and 1.09 x .82, while the other two measure only .87 x .63, and .88 x .63, and are runts of the most pronounced type.

A set of eggs of Downy Woodpecker (*Picus pubescens*) collected near Nazareth, Penn., on June 8, 1882, has five eggs, four of which are normal size, while the fifth only measures .66 x .54.

The most remarkable runt eggs which have ever been found are probably a set of five of the Worm-eating Warbler (*Helminthotherus vermivorus*) found by Mr. Samuel B. Ladd near West Chester, Penn., on June 11, 1887, and described in THE ORNITHOLOGIST AND OÖLOGIST for July, 1887 (Vol. XII., p. 110). The average size of the egg of this species is about .68 x 54. but Mr. Ladd's wonderful set measure .46 x .36; .46 x .36; .45 x .37; .42 x .36 and .42 x .36. In shape and colorings they are perfect miniatures of the full-sized eggs of this Warbler. As they were the seventeenth set which Mr. Ladd took in the same locality they were probably the last effort of a female who had laid two previous sets, which she had been deprived of.

A runt egg of the Yellow Warbler (*Dendrœca æstiva*) measures .45 x .35 and is perfect in its shape and coloration.

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Golden Crested Kinglet at Grand Manan.

BY CHAS. H. ANDROS.

I include this species simply to mention a nest taken by Mr. Cheney a short time before our arrival at his home. Though, undoubtedly, nests have been taken since that found by Dr. Brewer, his is the only authentic instance with the exception of the incomplete set taken by Dr. Northrup at Caribou, Maine, which enters into detail that I have yet seen in any New England work. Mr. Minot's nest found in New Hampshire, contained young. My regret is that I did not more carefully note the measurements and material which enters into the make up of Mr. Cheney's nest. It is a beautiful piece of architecture, shaped much like the home of the Blue-grey Gnat-catcher, but is much larger and deeper. Internally, it is lined with soft down and wool, and contains about six cubic inches. From edge of nest to bottom exteriorly, measures about five inches, and the thickness of nest wall at top must be about one-half inch. Externally, the nest is covered with green moss and decorated with a few cobwebs and lichens, and unlike Mr. Carpenter's nest was saddled to a spruce limb. It also differs from his, being open at the top. The wool is easily obtainable, sheep ranging at will over the sparsely grown highlands. Though supposed to be domesticated, the rams are tough looking customers, and the whole flock bore signs of cruel neglect, being sadly in need of shearing when we met with them. The wool collects on thorny bushes and shrubberry in considerable quantities, and many birds take advantage of the desirable material for a lining. It is naturally coarse and poor, the sheep being obliged to shift for themselves the year round, and the many skeletons noticed testify to their inability to withstand the exposure of the rigorous winters. They are practically of no use save for mutton, the wool not attaining fine even texture suitable for the market. But to return to the kinglet's nest. It was taken on or about June 1st, and contained ten eggs of a dingy white ground. The confluently dotted crown presents the appearance of having come in contact with a twirling motion to a finger daubed with red chalk or ochre. The markings being at first a heavy blotch and gradually wearing down to a faint spot not wholly obscuring the ground. The mark was invariably confined to the crown, and was usually nearly circular. Lack of tools prevented my taking measurements, which could not have failed to have been of interest in a so rare and little known variety.

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Nesting of Traill's Flycatcher at Grinnell.

BY LYNDS JONES, GRINNELL, IOWA.

The nesting of the *Empidonaces* and *Contopus virens* for several years gave me no little trouble. It was not until I had taken several birds with their nests that I could always be sure when I had a nest of *Empidonax trailli* and not that of some other Flycatcher.

I have found many nests of this bird and in many different positions. One nest was almost pensile, placed between twigs of a small bush a foot from the ground. Only a small part of the nest projected above the horizontal twigs, while three or four inches of the loose material of which the nest was composed hung below. The color, position and material of the nest so closely resembled that of the nest of Bell's Vireo that at first sight I thought it was that, but a second glance showed me my mistake. This was a very compactly made nest of the bark fibres of weed stalks, intermingled with a little dry grass and a few long hairs from a cow's tail. It was in the midst of a thicket of brush and trees, a few rods from a small stream.

Another nest very much like the last in material was placed on a bough, and was far less compactly built. This one was in a small tree standing alone and overhanging a stream, and was about six feet up.

Two others I recall whose positions were very unusual. The one was in a hedge-row of willows, built into the upright forks much as is the nest of *Lanius* or Goldfinch or Yellowbird. This is a very slovenly made nest. The other was lashed to the side of an upright fork in much the same manner as a grain sack is held open to facilitate the improving of the grain, *i. e.* held on only one side at the top. The latter one was necessarily quite strongly made, for its support was the lashing at the top. The composition of both these nests was the same as the first, and each contained four eggs.

While the second form of nest mentioned is not rare, yet the first is the common one and the composition varies but little; at least the nest is always largely made up of the soft fibrous bark of weed stalks, usually of a neutral tint, preferably leaden-gray. And the nest complement is three or four eggs, never more than four.

The nest may be found as early as the first of June and as late as the middle of July, but only one brood is reared.

While this bird usually frequents the woods or willows immediately bordering a stream of running water, yet we sometimes find it high up on the hills and far from any stream.

◆

Large-sized Eggs of Mniotilta varia.

BY J. P. N.

On April 26, 1887, Mr. R. B. McLaughlin found a remarkable set of eggs of the Black and White Warbler (*Mniotilta varia*) in Iredell County, North Carolina. Their peculiarity consists in their size, which is truly extraordinary for this species. There can be no question as to their identity, as the bird was on the nest, and Mr. McLaughlin has collected many sets, and is thoroughly familiar with them. The nest was on the ground at the foot of a small bush, and is characteristic of the species.

The eggs are of a creamy white, beautifully speckled with bright reddish brown and lilac. The markings are much closer together at the larger ends, where they form indistinct wreaths. They measure .76 x .56; .78 x .57; .76 x .56; .76 x .57; .75 x .57.

Another set, collected by Mr. McLaughlin, on April 20, 1887, in the same locality, are creamy white speckled with dark reddish brown and lilac. In four of the eggs the markings form indistinct wreaths around the larger ends, but the fifth egg has the markings almost all at the smaller end. They measure .69 x .51; .68 x .51; .69 x .51; .66 x .50; .69 x .50.

A third set collected by C. O. Tracy, near Hartland, Vermont, on June 20, 1883, are creamy white, heavily speckled with reddish brown and lilac, chiefly at the larger ends, where they form wreaths: .71 x .55; .71 x 54; .70 x .52; .70 x .54; .69 x .54.

◆

The New Edition of Dr. Coues's "Key."

The long-delayed new edition of this work has at last made its appearance, and, as predicted in these columns several months ago, it is simply a mere reprint of the old work from the stereotype plates; with the addition of an appendix giving the nomenclature of the American Ornithologists' Union, and also a few new species.

The so-called "Sportsman's Edition" is the same as the other, except that it is printed on very thin paper—so thin that the type shows through the page and makes the print bad for the eyes, while the cuts appear to very poor advantage. The margins have also been cut down so close that the book is utterly disfigured.

The only question which will occur to the reader of this new "edition" is why was there so much delay in getting out a mere reprint?

J. P. N.

◆

The Purple Grackle as a Bee-Eater.

BY L. O. PINDAR.

In my note book for Nov. 7, 1887, is the following, which notes a trait of the Purple Grackle. I have never heard of it before, and therefore send it to the O. AND O., thinking it may be new to some other readers of that paper.

"Several days ago, a neighbor's little girl caught a Purple Grackle which had been slightly wounded, and made a pet of it. It is now so tame it may be trusted to go all around the yard. This morning, I saw it, (the grackle), standing in front of the bee-hive, and on closer inspection found that it was eating the bees as fast as they came out of the hive. I am afraid the Purple Grackle will have a hard time in the struggle for existence if he does not behave better. Mr. C. H. Andros has already recorded (O. AND O., Jan. 1886), an instance of one devouring a robbin. As it is, they are eagerly sought after by many embryo hunters, some of whom consider a blackbird stew a delicacy. The same holds true with Robins and Cedar birds."

◆

Late Nesting of the Black-billed Cuckoo.

BY S. W. DENTON.

I have to record the finding of a nest of the the above species by myself on the 21st of August of the present year.

The nest contained three eggs slightly incubated and was composed of the following materials: A layer or platform of twigs on which were a few oak leaves with a thin and sparse lining of pine needles. Nest very shallow and placed in an oak bush about seven feet from the ground near a path on the sunny but wooded side of a hill.

Was this a second laying this season? If not, then the birds, as near as I can figure it, were over two months behind time in their housekeeping duties and should have been preparing to leave for the South rather than imposing upon themselves the burden of a family at that time of year.

◆

Albino Eggs of the Florida Towhee.

BY J. P. N.

Two remarkable sets of eggs of the Florida or White-eyed Towhee (*Pipilo erythropthalmus alleni*) collected by Mr. Walter Hoxie, during the past season, near Frogmore, South Carolina, are well worthy of description.

Set 1. May 28, 1887. Three eggs. Incubation advanced. Bird seen on nest. One of the eggs has a ground color of white, covered all over with very faint yellowish specks. The specks are so very faint and indistinct that the egg at a little distance has the appearance of being of a very light yellowish brown color all over, but much lighter than the typical egg of this species. The other two eggs in this set are of a uniform light bluish white, entirely unmarked. In appearance they resemble large eggs of the Blue Grosbeak (*Guiraca cœrulea*) but they are of a fainter bluish tint: .90 x .69; .85 x .70; .82 x .68.

Set II. June 7, 1887. Two eggs. Incubation slight. Bird on nest. Both the eggs in the set are of the same light bluish white tint that the two of Set I. are. They also show not the slightest indication of any markings: .85 x .67; .87 x .69.

Both the nests were built in the same bush (a plum sapling) at a height of about three feet from the ground. Mr. Hoxie has no doubt that both were laid by the same bird.

◆

A Rare Gull.

BY J. C. CAHOON.

One of the men at the Monomoy Life Saving Station, informed me a short time ago that he shot last winter an entirely pure white gull. To-day, I received a full description of this bird, which, without doubt, is the rare Ivory Gull (*Pagophilæ burnea*). It was shot on the first of December, 1886, after a fresh blow from the northwest. It was kept a long while at the station, and as it was not considered rare by the men, nothing was done with it, and it spoiled and was thrown away. The description which the men gave me at the station was as follows: Color of gull, entire pure white; bill, dark; eyes and feet, black; in size, between a kittiwake and a herring gull. This coincides with the description of the beautiful Ivory Gull, this being the only entirely pure white gull in the sub family *Larinæ* of North American birds. Coues' Key says: Arctic seas of both hemispheres, coming southward in winter, but rarely to United States.

It is to be much regretted that this elegant bird could not have been saved, as it would have made a valuable specimen, being in full plumage.

◆

Black Rail in Philadelphia.

A fine specimen of the Little Black Rail, 576 Ridgway check list, was killed at the mouth of big Timber Creek, about seven miles from this city, Sep. 22nd.

W. J. SHERRATT.

Double Nest of the Parula Warbler.

BY R. B. MC LAUGHLIN, STATESVILLE, N. C.

Some years ago while out in search of eggs, I noticed some moss hanging to a dead limb of a maple sapling. Its resemblance to a bird's nest was sufficient to induce me to climb up, although I was not sure what it was. This proved to be a double nest of the Blue Yellow-backed or Parula Warbler (*Compsothlypis americana*) and a single bird, reiterating a feeble note of distress, flew about me as I cut off the limb.

Getting it safely to the ground, I found two eggs in one nest and one in the other. The two eggs were perfectly fresh and easily blown; the one egg had settled to one side of the shell, partially dried and could not be blown, which shows it had remained in the nest for some weeks.

My opinion is that a nest was built, one egg laid and for some cause — possibly the death of the male bird — it was deserted and another one was built beside it, the full number not having been laid when found.

◆

The Golden Eagle in Connecticut.

BY "J. M. W.," NORWICH, CONN.

A good specimen of a young Aquila was shot in Preston, New London County, in October by Mr. Graile, and is now mounted in the collection of Mr. Geo. H. Martin of this city.

Like the full-grown young of most of the *Rapaciæ*, in life this eagle was bulkier than adult specimens, while it equalled them in height and alar extent. It is an unusual record for Connecticut for a Golden Eagle to linger a week in one locality, but in that time he had killed twenty hens for Mr. Graile, and it was when returning to feed on the body of a turkey he had killed that he was in turn shot by the irate farmer.

◆

WHITE EGGS OF THE KINGBIRD. While examining the collection of a friend in Ulster Co., N. Y., I was shown a nest and eggs of the Kingbird, (*Tyrannus carolinensis*), which differed from the usual type, as the eggs were perfectly white. The identification was correct.

H. TAYLOR.

Poughkeepsie, N. Y.

The Capacity of Eggs.

BY WALTER HOXIE, FROGMORE, S. C.

For several years past I have experimented by fits and starts on some expeditious and accurate method of determining the capacity of eggs. The readers of the O. AND O. have had a paragraph or so of my experience, and now I hope I have made a departure which may be of practical value.

I constructed a scale to weigh a half ounce at six inches from the balancing point. The tenths of an ounce were then an inch and a quarter apart, and the hundredths one-eighth of an inch. This is plenty large enough for quick and accurate work in the evening, and very convenient for "the old party in specks," who is just my size, age and everything, you know. A big basin of dust shot, a tea spoon and a paper funnel constitute the rest of the apparatus. The eggs are filled with dust shot, gently shaken down till no more will enter, and then weighed.

The following list is the record of last night's work. It will be seen that it includes a little over a hundred determinations of weight which make good comparisons of capacity.

No. of Eggs Weighed.	Name.	Capacity in Oz. of Shot.	Average Variation.	Capacity in Cubic Inches.
5	Quail (*Ortyx virginiana*),	2.00	.02	.578
10	Clapper Rail (*Rallus longirostris crepitans*)	3.88	.05	1.121
5	Oyster Catcher (*Hœmatopus palliatus*)	8.91	.11	2.575
3	Night Hawk (*Chordeiles popetue*)	1.55	.01	.448
10	Cardinal (*Cardinalis virginianus*)	1.08	.01	.312
10	Mocking Bird (*Mimus polyglottus*)	1.19	.02	.344
3	Red-winged Black Bird (*Agelaius phœniceus*	.84	.03	.243
10	Boat-tailed Grackle (*Quiscalus major*)	.63	.04	.471
5	Wilson's Plover (*Octhodromus wilsonius*)	2.66	.06	.769
10	Nonpariel (*Passerina ciris*)	.39	.02	.113
1	Orchard Oriole (*Icterus spurius*)	.67		.194
5	Long-billed Marsh Wren (*Telmatodytes palustris*)	.25	.02	.072
1	Royal Tern (*Sterna regia*)	16.51		4.772
4	Black Vulture (*Catharista atrata*)	22.35	.23	6.459
1	Least Tern (*Sterna antillarum*)	1.76		.509
5	Willet (*Symphernia semipalmata*)	7.89	.21	2.280
5	Florida Gallinule (*Gallinula galeata*)	4.31		1.246
10	Snowy Heron (*Garzetta candidissima*)	4.32	.04	1.246
5	Louisiana Heron (*Hydranassa tricolor ludoviciana*)	4.42	.06	1.246

The average variation is the numerator of all variation, whether positive or negative. To illustrate take the five quail:

No. 1,	2.02	.2
" 2,	2.04	.4
" 3,	1.97	.3
" 4,	2.00	.0
" 5,	1.97	.3
	5) 10.00	5) .12
	2.00	.02

This seems to me to be a very good way to give a tangible argument in place of "probably the same" and "probably greater." I'm a Yankee and I can guess pretty sharp, but I can't guess which is the bigger of two eggs to save me.

Large Set of Eggs of the Carolina Rail.

Mr. E. G. Tabor, of Meridian, N. Y., reports having found a nest of the Carolina Rail (known also as the Sora Rail—*Porzana carolina*) containing seventeen eggs, and wishes to know if that is not a most unusual number. In some of them incubation was far advanced, while others were only slightly incubated.

◆

Mr. H. Taylor, of Poughkeepsie, N. Y., reports with good evidence, the nesting of the Blue-wing Teal, (*Querquedula discors*) at Black Pond, Ulster Co., N. Y., in the summer of 1886.

The writer desires to separate himself from that editorial “ we ” so often the shield of personalities, and glance backward for a brief moment. The course of this magazine has been different from that of the previous year, but no visible appreciation has been extended to it by those whom its remarks appeared to offend in volume XI, which was a fulfillment of the prophecy made at the commencement of the year. It is much regretted that some plans have failed. Dr. Le Moyne has not been heard from since a letter dated June 24th at La Place, and consequently his articles which promised to be of much interest, have been lost. The intended serial, on the composition of nests, has proven to be an undertaking of more magnitude than first supposed, which greatly delays the author. Its appearance, however, is only a matter of time.

The acknowledgement of the faithful and efficient assistance rendered by my associate, the Oölogical editor, is freely tendered, and can but faintly show my appreciation of his untiring labors in the interests of this journal. “ His has often proven the better half,” is a true rendering of an old quotation, as applied to his work. To the gentleman, who, on the part of the Bristol Ornithological Club, edited some valuable papers, due credit should be given, and it is with deep regret that a possible separation is contemplated. In fact, the work of the writer is scarcely visible, and he hastens to excuse himself from too severe criticism by a plea, which if seen by the reader, would relieve him of all censure, but which tersely stated is a lack of time and demands of an imperative business.

F. H. Carpenter.

The movement initiated by the American Association for the Advancement of Science, to erect a monument to the memory of Audubon, has, we are pleased to say, taken definite form. A committee has been appointed at a recent meeting of the New York Academy of Sciences, consisting of Prof. Thomas Egleston, of School of Mines, as chairman, Prof. Daniel Martin, of Rutgers Female College, and Dr. N. L. Britton, of Columbia College. The latter gentleman was chosen secretary and treasurer, and is now ready to receive any subscriptions which may be forwarded him.

The simple mention of the above fact should suffice to draw ready contributions from all classes of naturalists, to forward the object in view.

A New Publication.

It will not be out of place, even in a strictly ornithological magazine, to mention a forthcoming work on the fishes of North America, by Mr. Wm. E. Harris, editor of the *American Angler*. From the prospectus, we learn that the publication is to be issued in monthly parts, on heavy plate paper, and will consist of at least forty parts, containing portraits of eighty or more fishes, printed on heavy card board. An extremely valuable feature of the work is its originality; the plates being copies of life sketches by artists who accompanied the author and transferred to canvss the results of his sport. The name of the author should be a sufficient guarantee of the scientific value of the work.

Publications Received.

American Naturalist.
Book Chat.
Forest and Stream.
Open Court.
Scientific American.
Trans. N. Y. Acad. of Sciences.
West American Scientist.

Errata.

No 3, page 33; “a common nesting place” should read a common resting place.

Page 34, “Tree Sparrow” should read Tree Swallow.

No. 9, page 145; *Turdus mustelinus* should read *Turdus* var pullise.

No. 11, page 185; *œtiva* should read *æstiva* in numerous instances.

Page 188, “Second of these birds ever seen” should read several of these birds were seen. Many errors are visible in the scientific names, but none but what are recognizable as mere typographical errors and will not prove misleading statements.

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Various complaints having been made in regard to the reliability of advertisers, the publisher would hereby acknowledge the receipt of the same, but must decline to take any further notice of the matter unless postive proof be produced. Recent frauds are not confined to regular dealers, and in some cases are shielded by parties loud in their denunciations of certain advertisers.

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